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GLEANINGS

IN BEE CULTURE

CONTENTS

MARKET QUOTATIONS.....	1110
STRAWS—Dr. Miller	1117
BEE-KEEPING AMONG THE ROCKIES.....	1119
GLEANINGS FROM PACIFIC COAST	1121
EDITORIALS.....	1123
Death of C. T. Abbott	1123
Corrugated Paper for Shipping-cases	1123
The Honey Season for 1905	1123
Flight of Bees, Distance of	1123
Amount of Ventilation Needed in Cellar	1123
That Cure for Black Brood	1124
Our Caucasian Bees; Their Good and Bad Traits	1124
Marketing Before the Holidays	1125
GENERAL CORRESPONDENCE.....	1125
How to Rid Your Apiary of Black Brood.....	1125
The Hoffman Frame.....	1127
Unripe Honey; Outdoor Feeders.....	1128
Notes from Cuba.....	1129
Shallow Hives. Again.....	1130
A "Growing" Wax-press and Its new Features.....	1131
A Device for Holding Frames while Nailing.....	1132
Misconceptions about Cuba Corrected.....	1132
Visit at the Swarthmore Queen-rearing Yards.....	1133
Doing Stunts with Bees before a Crowd.....	1137
CONVERSATIONS WITH DOOLITTLE.....	1137
HEADS OF GRAIN	1138
Questions from Zululand.....	1138
An Outdoor Atmospheric Feeder.....	1139
Unoccupied Bee-ranges in Alabama.....	1140
Comb Honey Attached to Fences in Super.....	1141
Uniting in the Fall or Spring.....	1142
Freezing Queens to Make Drone Layers.....	1143
OUR HOMES.....	1145
SPECIAL NOTICES	1158

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MEDINA



ROOT CO.
OHIO

Western Edition

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GLEANINGS IN

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F. GREINER, in *American Bee Journal*, prefers sulphur to bisulphide of carbon, because the bisulphide costs 35 cts. a pound. He burns the sulphur *over* the combs. He uses 1½ oz. of sulphur for 10 supers of 24 sections each.

A QUESTION, page 1086, suggests that it is time again to say that colonies are not likely to have "a fertile worker or two," but that quite a number of them are found at the disreputable business; and Mr. Griggs may be assured that, even if there was only one laying worker in a colony it would not accept a queen without balling—nor with balling, either.

YOUNG BEES (not young brood, as the heading has it) attached firmly to the bottom of the cell, page 1084. Dr. Brown's description tallies exactly with the cases mentioned in a Straw, page 1062, and I suspect that the same miscreant, that little worm, was the culprit in each case. [I have never seen this little worm, and should be very glad to have specimens by mail in a little box from any of our subscribers so that we may have them sent to an entomologist for identification and life history. The little worm spoken of was, no doubt, responsible for the injured young bees spoken of in GLEANINGS. Was it not, doctor, some species of wax-worm?—ED.]

CONFLICTING TESTIMONY as to Caucasian bees may possibly not be so very conflicting after all. If they are never so gentle, and yet only mediocre as storers, they will be no acquisition for those whose main object is a crop of honey; but if more gentle than any others they will be a great acquisition for those who, like Dr. Lyon, do not care so much for the commercial side of bee-keeping. I'd rather have bees that would give

me a lot of stings more than any others, if they would also give me a lot more honey than any others; but if I kept only a few colonies just for the fun of it, I'd rather have bees that wouldn't sting, even if they gave only half a crop. How are the Caucasians as honey-gatherers, anyhow? [See editorials for a statement of our Caucasian bees.—ED.]

GOOD JOKE on ye editor, who says, page 1067, that Miss Dittmer, who has just been married, created a very favorable impression at the Northwestern, in Chicago. Say, Ernest, whisper; that was Miss Dittmer's mother you met there. But I don't blame you for being favorably impressed, even if you did think she was a young damsel instead of a woman with a marriageable daughter. [I discovered the "joke" before the last issue got off the press, but it was too late to correct it then. As a matter of fact, I met Miss Dittmer at the Minneapolis convention with her brother. Yes, I was very favorably impressed with *all* the Dittmers. I wish there were more like them in this world.—ED.]

WHEN HAULING bees from outyards without closing entrances, you say, Mr. Editor, p. 1071, you will have the king-bolt so it can be easily withdrawn. You don't mean "king-bolt," do you? and I don't know what is the right name of the bolt that holds the doubletree. But, even if freed from the wagon, there would be danger of a bad runaway with some horses if a pair of single-trees and a doubletree were clattering at their heels. Couldn't some way be devised to unhitch the tugs instantly? Another good way for safety is to close all entrances bee-tight. Guess I'll stick to that. [I accept the correction on the king-bolt. At all events, it is a bolt that releases the doubletree. No danger of a bad runaway if the driver does as our teamster does. I have seen him, time and again, jump down off the wagon, pull out the doubletree bolt, as we will call it, grab the doubletree with one hand, and drive the team away with the other. As the team moves forward he pulls on the doubletree, keeping the whiffletrees and all off the heels of the horses. One can

move off at a good smart walk. It would be practically impossible to release a team by unhooking the tugs if the horses got to throwing themselves.—ED.]

DOVETAILED HIVES have now been in use long enough so that the question might now be, not as to how they *will* last, but as to how they *have* lasted as compared with square joints or lap joints. I've had the dovetailed corners ever since any were made; and they stay in place decidedly better than any other, and as yet show no sign of rotting, and that without paint. [Yes, you will remember I made the remark that, since you persisted in not painting your hives (when I had always advocated it) we would have a chance to observe how well the lock cornering would stand without paint. This was ten or twelve years ago, and I believe this is the first report we have had from you. I am not surprised, however, because I have seen other lock-cornered hives all over the country, without paint, that were still strong and good at the corners, while the lap-cornered hives of the same age were a good deal worse for the weather. All's same'e, I advocate paint, for the looks of the thing if nothing more.—ED.]

PILING HIVES in cellar, as illustrated on p. 1014, has the objection mentioned, p. 1061, that, when one colony stirs up, the disturbance may be communicated to the whole pile. You reply, Mr. Editor, "You are correct; but if room is limited, what are you going to do? To put the hives on shelving . . . would be expensive, and wasteful of room." Well, I will tell you what you can do that will be no more expensive and wasteful of room than the page-1014 plan, and leave the colonies just as much isolated as on shelves. Pile the hives four or five high, one hive straight on top of another, each pile detached from every other pile. That's the practice "in this locality." [Our hives are piled up in the cellar with their bottom-boards, said boards having good wide entrances. Your plan of piling one hive squarely on top of another is all right; but many bee-keepers have hives with narrow entrances and detachable bottom-boards. The hives are lifted off the stands, carried into the cellar, lifted off the bottom-board, and then piled just over the space between two other hives below. Of course, your plan could be carried out even then by putting four blocks between the cover of the lower hive and the hive just above without bottom.—ED.]

YE EDITOR asks, p. 1061, whether jolting bees off a comb by holding one end of the top-bar and striking the other end on the ground would not have a tendency to make the frame a little out of square. One would certainly think so before trying it. The practice was begun here perhaps two or three years ago, first on very light combs, with no thought that it would do with heavy frames at all. Gradually, as no harm came from the practice, heavier and heavier combs

were thus jarred, until combs that were entirely filled with honey, and sealed, were jarred, and very careful watching has never shown any jarring out of square. It jars the bees off more quickly and more perfectly than any amount of shaking, whether the combs are light or very heavy. One reason, perhaps, that no harm is done is this: When you take hold of one end of the top-bar and attempt to strike the other end of the same bar on the ground, you naturally swing the comb out from you, letting the force come upon the comb diagonally, the top-bar not standing perpendicular, but at an angle. If you try it I think you will like it. [I shall be glad to try the trick at the next opportunity. No doubt you are right, that the damage in practice is nothing like what it is in theory.—ED.]

A MUDDLE appears to have occurred, page 1006. I said, Mr. Editor, that I was dazed at your saying, page 964, that but for being easily clogged you would prefer a winter entrance only one inch wide and $\frac{1}{4}$ high. Referring now to page 964 I find you said "4 in. wide and $\frac{1}{4}$ deep"—just four times as much. Small matter how the muddle came, but it is important to know what's right. As that small entrance passed unchallenged, page 1006, please tell us what is right, especially as the *American Bee Journal* quotes GLEANINGS as giving a still different entrance, $6 \times \frac{1}{4}$. [No muddle at all, doctor, unless you are muddled. While I advocated an entrance $\frac{1}{4}$ high and 4 inches wide, you will note that I stated I preferred one an inch wide and $\frac{1}{4}$ high *providing* that such an entrance would not clog up with dead bees. But as such an entrance would clog, undoubtedly a larger one would have to be used in practice. If you will look back to the references I think the whole thing will straighten itself out. The difference between $6 \times \frac{1}{4}$ and $4 \times \frac{1}{4}$ inches would be very small. I may have recommended the six-inch width in one place and the four-inch in another. For a strong colony I should prefer the six-inch width; for one of medium strength a four-inch width, and for one that is weak a two-inch. But, mind you, this is for outdoors only. For the cellar, the larger I could have an entrance the better I should like it.—ED.]

"MR. NEWELL has presented in a nutshell the best arguments I have seen yet against selling honey by the piece." So the editor, p. 1089; and then he proceeds to give in a nutshell the best arguments I have yet seen on the other side of the question. But! There are still some things that might be said. It is very true that the trend is toward selling things in ready packages without weighing. But please note that in nearly all such cases the packages are of such things as can be made, and are made, of uniform weight. You don't buy a chicken, a beefsteak, nor a slice of cheese by the piece, generally. Eggs are sold by the dozen. Isn't that a relic of by-gone days, when eggs were more uniform in weight than now?

You say, Mr. Editor, "no one would think of buying eggs by the pound." Beg pardon, that very thing has been thought about and talked about; and, if I am not mistaken, eggs are sold by the pound in some places. Please note that, while the trend is toward having things in ready packages, that's only another form of saying that they are *ready weighed*, and equally the trend is toward having things sold by actual weight. When I was a boy I never heard of wheat being sold by weight; you, Mr. Editor, very likely never knew of its being sold any other way; same with corn, oats, and other grain; and potatoes, squashes, and a whole lot of other things are coming into the same list. You say, "one can go into a grocery and get pretty nearly a whole lay-out without using the scales once." Now, what kind of talk is that? Haven't the scales been used in making up those ready-weighted packages? You say, "Many grocers will not handle honey, and why? Because we bee-keepers have not catered enough to the custom that now prevails, of regular size and regular packages at even change." My! my! Haven't we? Will you please name five things that we have not done in that direction? Well, just one, then? See here, my good friend and fellow-citizen, you might as well say that grocers will not handle dressed poultry because poultry-raisers "have not catered enough," etc. Do you think any poultry-raiser has ever tried as hard to have a lot of chickens of exactly the same weight as we bee-keepers have tried to have sections of the same weight? And still there are some other things to be said. They'll keep. [When you mention chickens, beefsteak, and the like, you refer to things that are seldom sold at groceries, but at meat markets. The citation of a chicken that is of more value, and which is to be sold at a place where nearly every thing must be sold by weight, is hardly a parallel case. It would be impossible to sell meat by the chunk, and chickens by the piece. What I was talking about was the grocery, where honey is sold and where the tendency is to sell nearly every thing in packages. Cheese is the only article that has to be sold by weight that I can now recall. Practically all other food stuffs are being sold more and more in packages. Even butter is being sold by the brick.

What I meant by saying that bee-keepers had not catered enough to the demands of the grocer was that they have been in the habit of putting heavy and light-weight sections in the same case, all mixed together. This makes it necessary for the grocer to sell by weight. The customer can not tell, neither can the grocer, how much the honey will be until it is weighed. But take to that same grocer a case of sections, each of which will be almost exactly the same weight, so that he can sell them by the piece, and see if he does not ask you to bring more of your honey to him in the same way. If you put your light weights in one case, your medium in another, and your strictly

fancy in another still, so that he can sell out of each case by the piece, you will please him and his customers too.

Referring to my statement that one can go into a grocery and get pretty nearly a whole lay-out without using the scales once, I meant, of course, the *scales in the grocery*. As a matter of fact, food stuffs put up in paper boxes, I supposed, are not weighed at all anywhere. The packages are filled level full, and sealed; and when full they hold approximately a certain given weight.—ED.]



Many bees are short of stores this fall. If yours have not been attended to, look after them at once. They may still be fed, though it would have been better earlier.

After the first hard frost, many colonies became so discouraged that they destroyed most of the brood in their hives, even uncapping and carrying the sealed brood. This is bad business, as these bees would have been valuable next spring.

There will doubtless be a large mortality among the bees in this part of the State. Many will make no effort to save those that need help. "If they pull through, all right. If they won't, let them die," seems to be the verdict of a great many. Some have just learned that bee-keeping is not the bonanza they supposed it was, and bees are not as desirable property as they were several years ago.

The use of rubber bands in transferring is a novel idea, and may prove valuable. When using string to tie the combs in, I must dissent from the advice often given to "wind the string around and around the frame." I much prefer to tie each wrap by itself, keeping the string always perpendicular to the top-bar and using no more string than is necessary. When it comes to removing the string, which is generally advisable, cut it on top, take hold of one end, and pull it out without removing the frame.

SHAKING BEES OFF SHALLOW COMBS.

Doubtless Dr. Miller's objection to the editor's statement on page 960 centers on the use of the word *all* instead of *nearly all*. It is quite true, doctor, that one who knows how can shake very nearly all of the bees out of a double-brood-chamber hive of shallow fixed frames without touching a comb. I make shaken swarms this way, and have to be careful not to shake them too closely.

SIZE OF HIVE ENTRANCE FOR WINTER.

I was a little surprised at the editor's statement that he would prefer an entrance as small as an inch wide and $\frac{1}{4}$ inch high. I always believed in a good big entrance for winter, about $\frac{3}{4}$ high and 1 1/2 wide; but I wanted the top of the hive tight and well protected. Perhaps with more upward ventilation a smaller entrance would be better. It is an easy matter to prevent an entrance from being clogged with dead bees. This is secured by setting the hive on a rim that will raise it about an inch and a half from the bottom-board, and having it so arranged that the entrance is in the upper edge of this rim. I used these for a number of years, and thought them very valuable in Illinois, though they do not seem to be as necessary here; but, though I like a large entrance for winter, I want to close it down as soon as they begin to raise brood in the spring. [See answer to a Straw in this issue.—ED.]

SWEET CLOVER.

I was a little surprised that any one should not understand my position in regard to the quotation about sweet clover on page 904. Perhaps it was taking too much for granted to suppose that everybody would understand it without direct comment in opposition, but I felt sure then, as I do now, that there are several thousand, at least, of GLEANINGS subscribers who know more practically about sweet clover than this so-called professor of botany. It will not do, though, to assume that this knowledge is possessed by everybody. Popular prejudice is undoubtedly against it, and is hard to overcome. I remember once hearing a poor farmer's wife lamenting that the drouth had been so bad that they had been able to raise scarcely any feed for their drove of cows, their principal means of support. She did not see how they were going to live that winter. It so happened that the road commissioners had that very day cut down a luxuriant growth of sweet clover, extending for several miles along the highway that passed their place. I advised her strongly to have him put this up for hay, telling her that there was a quantity of first-class feed to be had for the hauling. I learned afterward, though, that he was so firmly of the belief that it was worthless that he would not even experiment with it, and they pinched and scraped to make a living from their poor half-starved cows for which they might have had an abundance of nutritious feed if they had only had a little faith and common sense.

CORRUGATED PAPER IN SHIPPING-CASES.

Some have asked why, after using the corrugated paper strips in shipping cases for some years, I have abandoned them. For two reasons. They were a little more expensive and troublesome, especially after manufacturers began supplying drip-cleats with all cases. Secondly, experiment show-

ed that I did not really need them. I have never had much breakage in shipping comb honey. I do not remember that a single broken comb was ever reported, and I know that a great deal of the honey I shipped went through without any breakage, for nearly every case was opened by myself after shipment. Others have trouble from breakage. Why? Because the combs are not well attached to the section. Nearly every comb of my honey is well attached to all four sides of the section. This is because I use a thin section and a sheet of foundation that nearly fills it. If I had as much loss from broken honey as some people I have known, I should think the corrugated paper a necessity. I have had sample lots of honey sent me, of which nearly half would be broken down. I have no doubt that, for the greater part of the honey sent to market, these corrugated paper strips would be a great advantage; and if the manufacturers of cases would make them in a wholesale way, and supply them with their cases, the cost would be but very slightly above the wood strips.

RIPENING COMB HONEY.

The editorial comment on page 1008 would seem to indicate the belief that the keeping of honey over from one season to the next was the main point aimed at in my experiments and articles on the prevention of granulation in comb honey. This is by no means the case. While my experiments have shown that Colorado comb honey can be kept for a year or more without granulation, I would not wish to be understood as advising this or advocating it as a practical thing to do under ordinary circumstances. The fact that this can be done, though, shows that the tendency to candy in the comb, which has been considered an objection to Colorado comb honey, and has led to its practical rejection in some markets, is something which may be avoided. There would ordinarily be no profit in holding honey over from one season to the next; but if we can prevent this granulation which has given Colorado honey a bad name in some quarters it will mean a better market for our fine honey and many more dollars in our pockets. Nor are the advantages to be confined to Colorado bee-keepers, for every producer of comb honey will be benefited, and will find his product improved if he will follow these suggestions.

It is no new idea that comb honey is ripened and improved by being kept in a warm temperature. Other writers as well as myself mentioned it a number of years ago and have advised it at intervals since.

Warmth alone is not sufficient. To ripen honey properly the air must also be dry. Then the honey in the row of unsealed cells that is often next to the wood will be evaporated down so that it will not run out, even if the section be laid on its side. Also any broken cells will have the honey in them so thickened that there will be no leakage from

that source. But warmth and dryness are not sufficient. There must also be a circulation of air, and here I think is where many fail.

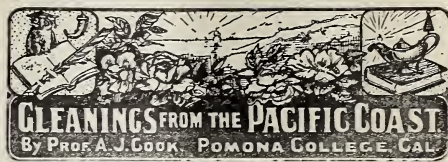
I find that it is the custom among almost all bee-keepers to leave the honey in the supers in which it was made until it is put into the shipping-cases. If kept in the supers they are piled up closely together; and if put into shipping-cases they are nailed up tight. In either case there is no chance for any circulation of air, which is necessary for proper ripening. I remove all honey from the supers as soon as I can conveniently do so, placing it in what I call storage-crates. These are simply skeleton crates, made by taking two pieces of board, each $4\frac{5}{8}$ wide by $17\frac{1}{2}$ long. These form the sides of the crate. The bottom and ends are made by cutting lath of such length that, when nailed on the sides, the crate is $\frac{1}{4}$ inch wider inside than six of your sections. Four of these pieces of lath form the bottom; and two more, nailed on the upper corner of the ends of side pieces, make the ends, and it is by these that the crate is lifted and handled.

In these crates the honey is placed as it is removed from the supers, and in these I usually leave it until I am ready to send it to market. These crates of honey can be stacked up as high as you can reach, and there is always a good circulation of air through them. If the honey is to be kept in them very long, especially if they are where it is at all dusty, spread a piece of paper over the top of each crate. This keeps out dust, while still leaving plenty of ventilation. These crates, I might mention, are just as useful for storing and handling sections before they are filled with honey as they are afterward.

For heat for ripening the honey you should plan to use the heat of the summer sun as much as possible. Very often this will be all that is needed to ripen your honey thoroughly. Generally you will find it profitable to use some artificial heat, especially if you are going to keep your honey into the winter. Very often you can find a place in your house where the honey can be ripened without using any special source of heat. The waste heat from stovepipe or chimney may often be used. The honey that I kept over was stored in an upper room of our furnace-heated house, where it was always warm, without the expenditure of any extra fuel. In former years I have warmed my honey-room with a large lamp, with an oil-stove, and with a small hard-coal stove. I aimed to keep this room up to at least eighty degrees for several weeks, and after that to warm it up whenever the temperature got much below the freezing-point.

Honey that has thus been thoroughly ripened is not only improved in quality and made proof against granulation, but it will ship better, on account of there being no leakage, and because it will not break as easily, and it will also stand much better the abuse and neglect that it often meets on its

way to market, such as when it is stored in a damp and cold place. Such honey will not absorb moisture as readily as that which is thinner. The comb is also much less liable to crack in cold weather.



SWEET CLOVER.

I was much interested in the note of Mr. J. A. Green, criticising the bulletin from the Kansas station regarding sweet clover. Except that I had read the bee journals and noted the controversies on this subject in the past, I should be a decided partisan with the Kansas professor. I grew sweet clover for years, and was always pleased to note its value as a honey-plant. I was eager to demonstrate that it might also be used with profit for forage. Green or dry, it was alike distasteful to both my horse and cow. Indeed, I could not in conscience starve them to eating it. I notice that, in California, other grasses and clovers will be closely cropped while this is left to grow. Either cattle and horses vary in their taste, which is not improbable, or else, perchance, the clover is more or less savory, depending upon locality. I am free to say that I do not believe that melilotus, either yellow or white, will ever reach any great prominence for hay or pasture.



BEEES IN ENGLAND.

In our progress through the British Isles (and I have been in all three) I have been surprised to note the striking absence of large apiaries. While I have seen the few colonies scattered very widely, I have yet to see a large apiary, such as so frequently gladdens the eye of the traveler along the foot-hills of California. Indeed, I am told that there is but one person in all the British Isles who relies upon his bees for his livelihood. Usually the bees are kept simply to help out. One, if not the largest, bee-keeper, whose honey is put up in very fancy shape, each section glassed on both sides, and the glass bordered with fancy scalloped paper, has a good business aside from his bees. From my observation I believe bee-keeping here to be a much more precarious occupation than in the United States. A bountiful honey crop comes only from abundant nectar secretion; and it has been fully demonstrated that rather dry hot weather not only favors the flight of the bees, but also conduces to a honey-flow. The cool moist climate of the British Isles is inimical to both, and thus we may readily believe, as I am assured by bee-keepers here, that Britain can never be an ideal lo-

cality for bees. It lacks the favoring dry hot climate of Arizona, Colorado, Nevada, and Southern California.

INTENSIVE AGRICULTURE.

A very thrifty farmer, for the region, of Northern Ireland, told me a few days ago that he, like all his neighbors, had to pay on his 120 acres of land £20 (\$100) annually for taxes and £100 (\$500) for rent! This must be paid each year. What would our American farmers do under like circumstances? Does this not argue either the closest economy, which I think prevails here, or else greater productivity of the soil? I think this is true, though not to so marked a degree as I had previously supposed. I think more attention is paid here to cultivation and to manuring than is given by the average American farmer; though, so far as I have observed, the cultivation here is much less deep than in the States. Possibly this is the result of the more frequent and copious rains. I have wondered if the more numerous honey-bees might not in some part account for greater productivity. I have rarely ever enjoyed a day more than the one spent a few days ago in Kew Gardens, in West London. Although the day was cold and rainy I saw more honey-bees than I saw coming across the whole American continent from Oregon to Minnesota. There can be no question at all but that the honey-bees in securing the more perfect pollination add immensely to the fruiting of most plants. The snug condition of things in the British Isles crowds the bees, to the great gain of the agriculturist of this region. As I have hinted in previous articles, America will be wise if she take every possible precaution against scarcity of bees. Our agriculture should become more intense. By multiplying the apiaries everywhere in the agricultural regions of America we shall certainly work toward this desired intensity.

MIMICRY.

We use this word in science to indicate the frequent resemblances which we note in nature which are often so wondrously striking that we feel sure that they must possess some significance. The polar bear, like most arctic animals, is white. In those regions of eternal snow such color is ever a protection. The bear, the fiercest animal, is hidden from its prey, while the prey, in like way, is hidden from the bear. Thus, through adaptation to surroundings, both eater and eaten are alike advantaged by this mimicry of the snow. In Ohio, the weasel is white in winter, in time of snow, and brown in summer. We believe that this is mimicry for the good of the weasel. It aids him, not only to approach his prey, but also to escape from his own enemies. Who has not noticed the sober colors of the sparrows? Like most birds which frequent the ground, their gray or brownish costumes hide them, as it were, so that even the mother bird usually incu-

bates her eggs in safety. I have known a case of the American woodcock, a species of snipe, which was so hidden while sitting upon the nest, that, even though we knew she was there, it took very close scrutiny to find her. I feel safe in saying that, except as we disturbed her by almost stepping upon her, we should certainly have not discovered her at all. It is among insects that we find the most numerous and striking cases of mimicry. From their great numbers we should expect this to be true, both from cause and consequence. Who has not seen the "walking stick," green at first, as it rests upon the leaves, and gray or brown later, when it attaches to the twigs? Other insects might as properly be called walking leaves, for both in form and coloration they are marvelously like the leaves among which they harbor. Even the mid-rib and veins are not omitted. The loopers, or measuring worms, as they stretch forth from a twig are so like a broken stem that I have often asked students to find them, stating that they were within a few inches of my finger, and often they would look in vain. The katydids along the beach have lost the green which is almost the invariable color of these insects, and have become sand-colored. The locusts, gray or brown in the East, are ash-colored on the alkali plains of the western desert. Tiger beetles, like the locusts, are green or gray as they rest on the grass or bare earth. In many cases, as with our common lady-bird beetles, the insects are highly colored, and hence strikingly conspicuous. This seeming exception has ready explanation. These insects are unsavory. They smell very bad, and probably taste worse, so their bright colors also aid them, as the bird that has been beguiled by hunger to eat one of these beetles would almost surely associate the bright hue with the acid taste.

Perhaps the most interesting cases of mimicry are to be found among those insects whose habits attract them to the same places that bees are wont to visit. All nectar-loving insects, then, other than bees or wasps, will show numerous cases of most startling mimicry. Very many of the *Diptera*, or two-winged flies, sip nectar from the flowers. Often these two-winged flies are so like bees or wasps in form and color that they might deceive even the elect. Scores of times I have received from bee-keepers specimens of flies, often from our brightest bee-keepers, asking me to name "the bees" which they sent. There is one whole family of these flies — *Syrphidae* — which give us a striking example of this mimicry. Many are striped with yellow, exactly as are the wasps, while some mimic almost exactly the bees. Undoubtedly the birds are often deceived, and give these flies the go-by, fearing the stings which they could not give. There is also an entire family of moths — the *Sesuid* — which also sip from the flowers, and are so marked with blue and yellow that often one can hardly believe they are not veritable wasps, yet their bodies are brush-tipped in-

stead of being sting-tipped, and they are indeed very different from wasps. They form our worst borers, as the caterpillars tunnel our trees and vegetables, and often do incalculable damage.

We have all recognized the fact that all organisms change. I believe these changes come through the impress of environment. Favorable changes aid the individual and favor its continuance, while harmful variations tend to its taking off. Thus we easily understand how this mimicry has originated. It is one of the many illustrations of the universal law of adaptation which prevails with all organisms. If I may be bold enough to moralize, I may say that its till clings to us, the highest of all animals. The man who is adapted so that he is in perfect harmony with his environment has surely won out. Even with us, mimicry often comes in to play a conspicuous part.



We have in hand some valuable articles of more than ordinary merit, to be published in our December 1st issue—notably one from J. E. Crane on the use of corrugated paper in shipping-cases.

It is with much regret that we record the death of Mr. C. T. Abbott, which took place at his residence in Southall, England, Sept. 27, at the age of 46 years. Mr. Abbott belonged to the well-known firm of Abbott Brothers, who succeeded C. N. Abbott, their father, in the manufacture of bee-supplies. The Abbott Brothers, as supply-dealers and manufacturers, have come to be known all over the world; and the bee-keeping world on this side of the great water will extend its sympathies to the surviving members of the firm.

RAISING QUEENS DURING THE WINTER AT MIAMI, FLA.

MRS. ROOT and I are planning to spend the winter in Florida, and will probably get away sometime in December. Since I have seen the boys work so successfully with the baby nuclei here at the Home of the Honey-bees during the past season I suggested I should like to try my hand at it on a small scale, and Ernest proposed I should go down to Miami and get right at it. Of course, a locality would be greatly preferred where there are no other bees near; but if I can not find such a place I will do the best I can. I think the climate of Cuba might be rather better; but my last "dose" of seasickness in coming home from Cuba rather prejudiced me against going out any more on the big ocean.—A. I. R.

RANGE OF BEE-FLIGHT DEPENDENT UPON WHAT?

R. C. AIKIN, in the *Bee-keepers' Review*, says it is evident to him that the character of weather conditions and lay of country have much to do with the flight of bees, and he feels sure that his bees range from two to four miles from his yard. When I was visiting Mr. Alexander it was very plain to be seen that his 750 colonies in one location flew not only the mile and a half or two miles of commonly accepted bee-flight, but went three and possibly five miles. As a matter of fact, one could see buckwheat-fields five miles away in nearly all directions; and if the nectar was scarce in one field, the bees, if they could see that far, would probably keep on flying until they came to another white field with plenty of nectar. I shall present, in our issue for Dec. 15, a photo or two that will show those buckwheat-fields dotting the landscape in the distance miles away, and to which the Alexander bees are going. This explains *why* so many bees can be in one place.

THE EXTRACTED-HONEY BUSINESS INJURED BY MISREPRESENTATION.

In two-thirds of the States there are pure-food laws, and the laws are enforced in most of them, and yet there is a general belief that extracted honey is adulterated. This belief is continually fostered, as is also the case of comb-honey canards, by interviews, and items in cook-books and cyclopedias. The National Bee-keepers' Association ought, at the next convention, to set on foot a plan whereby all the cook-books, cyclopedias, doctor books, etc., containing these slanders about honey may be taken into consideration and their authors correctly informed as to the true facts in the case. It does not do much good for a manufacturer of bee-supplies to write to these people, because they conclude he has "an ax to grind." Of course, we can not efface the lines in the books already published, but we can prevent to a great extent the defamation of our business in the new editions. It is high time we were up and at it. Nearly every standard cyclopedia contains somewhere between its covers some misrepresentation about honey.

THAT CURE FOR BLACK BROOD.

POSSIBLY the most valuable article that we have ever published, one that, perhaps, may be the means of saving thousands of dollars, and put bee-keeping on a profitable basis in New York State, is one by E. W. Alexander, in this issue, on how to cure black brood with a minimum of labor and little or no expense save requeening. Mr. Alexander has been hiding his light under a bushel for a couple of years in order that he might make *sure* that this treatment was effective. When I visited him he incidentally told me what he had. It did not take me long to decide that he had struck on something that, perhaps, was the biggest thing

that had developed in four or five years in bee-keeping. Of course, I asked him for the privilege of publishing it, and finally made arrangements whereby the complete process was to appear in GLEANINGS. Possibly it may not work with others as it has with Mr. Alexander; but this one thing is sure: One who has black brood will grasp at straws.

OUR CAUCASIAN BEES AGAIN; THEIR GOOD AND BAD TRAITS.

I HAVE just asked our Mr. Mel Pritchard, who has charge of our bees, how our imported Caucasians are doing, and how their temper is, compared with that of other bees. He says they are unquestionably the gentlest bees he ever handled. He has mauled the hives around in all sorts of shapes in cool weather, and the bees paid no attention to it. He can hardly make them show fight.

But they are unsatisfactory in one or two other respects. They do not know enough, he says, to take syrup out of a common feeder in the hives when they are short of stores. He has been trying to make them put the syrup into combs. But it is the old case of leading the horse to water that wouldn't drink.

Another thing, if the weather is a little cool they will not venture out of the hive until an hour or an hour and a half after the other bees are out in the air. This may or may not be a desirable trait in chilly weather. At all events, Mr. Pritchard thinks the bees are too good-natured to be good for any thing, and that this particular colony will need a lot of nursing to bring it through winter. On the other hand, the climate of the Caucasus regions is about the same as that of Italy or Florida. If the bees are able to survive in Russia they might not live through in our climate. Even if these bees are not quite equal to Italians for honey-gathering the fact that they are so very gentle will make them much in demand with a large number.

MARKETING BEFORE THE HOLIDAYS.

ON the 20th of October we had a visit from Mr. S. J. Griggs, of the Griggs Bros., Toledo, O., a concern that does a large business in wholesaling and retailing honey as well as the handling of supplies from that point. While here I took occasion to interview him about the honey business. As he has had a large experience, what he has to say ought to have considerable weight.

"In the first place," said he, "bee-keepers are beginning to learn the importance of selling their honey before the holidays. Mr. Selser, through the columns of GLEANINGS, never said a truer thing than when he stated that there was little or no demand for table honey after Jan. 1. You have done a good thing for the bee-keeping fraternity in preaching that doctrine, especially where you urge bee-keepers to get their honey on the market early. Our table-honey trade is practically nothing during January, February, and March."

HOW THE TRADE IN COMB HONEY PUT UP IN CARTONS HAS BEEN RUINED.

"Do you buy or sell very much honey in cartons?" I asked.

"We do not," he replied, "and I will tell you why. The carton trade has been almost entirely ruined among the retail dealers, for the simple reason that some bee-keepers have put up their very poorest comb honey in cartons. When I expostulated with some of them they simply said, 'The trade wants something cheap, and I give it to them in cartons.' 'But don't you know,' I said, 'that you will kill your own trade quickly?' No, they did not think so. But they did just the same; and now when I talk about comb honey in cartons to my grocer friends they tell me they want no more of it."

I suspect there is much truth in what Mr. Griggs says. The original purpose of the carton was to protect an extra fancy honey, for there can be no question that cartoned honey will ship better because the folds of the pasteboard top and bottom make a very serviceable and effective kind of cushion; and then the pasteboard, front and rear, protects the delicate face of the honey itself. The carton has its legitimate use; but when a bee-keeper, in order to get rid of his undesirable honey in sections, puts it in cartons and then tries to palm it off on the trade as No. 1, he is making a serious mistake.

FRUIT A STRONG COMPETITOR OF HONEY.

"Another thing, I have observed," he continued, "there is liable to be a lull in the honey business when large quantities of fruit are unloaded in the market. Many who might purchase honey as a table delicacy will take home fruit instead. When the canning season is over, and cold weather comes on, the honey trade begins to improve; and that reminds me," he said, "that the trade always starts up in cold weather, and seems to be sluggish during warm weather in the fall."

"Can you explain why the temperature has anything to do with it?" I asked.

"No, I can not; but I have observed that other honey-buyers and commission men have remarked the same thing."

In the quotations of the honey market in our late issues one will see the statement often made that warm weather is responsible for light honey sales; but our Mr. Boyden, who has a good deal to do with the honey business, doubts very much whether the temperature has anything to do with the matter. The sluggish condition of the market he thinks must be due to some other cause.

"Do you sell much honey to the baker trade?"

"Yes, considerable. I disposed of quite a lot of Cuban honey to the bakers, and they all expressed themselves as being extremely well satisfied with it. Cuban honey has some qualities about it that make it especially adapted to the baker trade."

How to Rid Your Apiary of Black Brood.

A Cure that is Easily and Cheaply Applied without the Destruction of Combs, Bees, Hives, or Utensils; a Valuable Article.

BY E. W. ALEXANDER.

[It may, perhaps, stimulate a more careful reading of this article than it would otherwise receive if I state that we have paid Mr. Alexander for the privilege of giving this method to the world more money than we have ever paid for any other article we have ever published, several times over. Black brood, or the New York bee-disease, probably the most destructive of any brood disease, was raging among Mr. Alexander's bees with unabated fury three years ago. When he blundered on to this cure he scarcely realized that he was going to rid the bees of the disease; but the proof of the pudding is in the eating. I personally inspected hundreds of the *very combs* that were, three years ago, badly infected, and which at the time of my visit were filled with as nice solid healthy brood as one could wish to see. There was only one colony that had a cell or two of the disease, but this one was not treated strictly according to the method to be described. One or two of the details were omitted to see how far he could deviate from the plan. It is, therefore, with more than ordinary pleasure that we are placing before the bee-keeping public one of the most valuable communications that it has ever been our lot to give in these columns. I expect to have it all printed in small pamphlet form, and send it out for free distribution by the thousands. Of course, I may be mistaken as to its value, but I *hope* it will be the means of entirely emancipating the State of New York from the ravages of this dread disease, and other places where it may find a footing.—ED.]

This has been one of the hardest problems for me to solve that I have ever met in bee-keeping. For three years we tried every thing in the line of disinfectants that we could hear of, also putting our bees on foundation, which did but little good. Some of the things we tried seemed to help at first to check its deadly work; but in a short time it would show itself again as bad as before; and so the years went by while we lost nearly our entire honey crop and over a thousand colonies before we got the first sign of a cure, and even then it was so simple it seemed like a drowning man catching at straws. But I kept at the little proof I had until I developed it into a perfect cure. Then for three years we tested it thoroughly on hundreds of colonies, so that we could be sure it was a cure which could be depended on, and now I send it to GLEANINGS for The A. I. Root Co. to give to the world.

This cure is on the line of introducing new blood into the apiary, which will necessitate getting a choice Italian breeding-queen, one of the best honey-gathering strains that can be procured. For this special purpose I prefer quite yellow Italians. Now for the cure.

Go to every diseased colony you have, and build it up either by giving frames of maturing brood or uniting two or more until you have them fairly strong. After this, go over every one and remove the queen; then in nine days go over them again, and be sure to destroy every maturing queen-cell, or virgin if any have hatched. Then go to your breeding-queen and take enough of her newly hatched larvae to rear enough queen-cells from to supply each one of your diseased queenless colonies with a ripe queen-cell or virgin just hatched. These are to be introduced to your diseased colonies on the twentieth day after you have removed their old queen, and *not one hour sooner*, for upon this very point your whole success depends; for your young queen must not commence to lay until three or four days after the last of the old brood is hatched, or 27 days from the time you remove the old queen. If you are very careful about this matter of time between the last of the old

brood hatching and the young queen commencing to lay, you will find the bees will clean out their breeding-combs for this young queen, so that she will fill them with as fine healthy brood as a hive ever contained. This I have seen in several hundred hives, and have never seen a cell of the disease in a hive after being treated as above described.

It is not necessary to remove any of the combs or honey from the diseased colony; neither is it necessary to disinfect any thing about the hive. Simply remove the old queen, and be sure the young queen does not commence to lay until three or four days after the old brood is all hatched. This treatment with young Italian queens is a perfect cure for black brood.

In regard to those old queens that were formerly in your old hives, I think it best to kill them when you first take them from their colonies—not that the queen is responsible for the disease, for I am sure she is not; but a young Italian queen that has been reared from a choice honey-gathering strain is worth so much more to you that I can not advise saving these old queens.

I have experimented along this line considerably, and found, after the colony has been without a queen 27 days, as above directed, it will usually be safe to give them one of these old queens, and the cure will be the same. Still, there have been exceptions, so I advise killing them at once.

Now a few words about your breeding-queen. Buy one of the very best you can for this purpose; for upon her real merits rests the true value of your apiary hereafter. I would buy a three-comb nucleus with this valuable queen, so as to run no risk in introducing her to a full colony.

Now, my friends, don't let another season pass without cleaning your apiary of black brood, and also at the same time requeen it with young Italian queens so you will not only harvest a fair crop of honey next summer, but will have an apiary that you will be proud of and take pleasure in showing to your friends. I know many of you have become discouraged in trying to rid your apiaries of this fatal disease; but that does not

help matters any. The only proper thing to do when these troubles do come is to face them with a determination to overcome any and every obstacle that comes in your way; then when success rewards you for your perseverance, how pleasant it is to look back over the past and realize that you have accomplished all you labored for! I hope that you who have this disease in your apiaries will give this treatment a thorough trial next season, and please report the result of your trial to GLEANINGS so that every reader of it will have your opinion of the method.

In my next article I will call your attention to some of the possibilities of bee-keeping; and in doing so I think I can show at least some of you how you can realize more net profit from an apiary of one hundred colonies than many obtain from apiaries of several hundred. For some time I have expected some one would take hold of this subject and write a series of articles telling us how we might add much to our present income. If in my attempt to accomplish this I fail I shall have the consolation of knowing it was in a good cause; and if I succeed it will afford me much comfort to think I have added my mite toward helping my brother-man.

Delanson, N. Y., Oct. 7.

[I wish to call our readers' attention to the fact that there are two or three important factors in administering this treatment. The first is Italians, with a preference for the extra-yellow stock. Experience has shown in thousands of instances that black bees are very much more prone to get this disease in the first place, and when they do get it they are more liable to succumb to it than Italians or Carniolans. Put this fact down big.

Second, the bees must be *given time enough to polish up* — that is, disinfect their combs in anticipation of a laying queen; for, as Mr. Alexander points out, the bees must not be allowed to have a queen until after 20 days of queenlessness. The rationale of this is thorough cleansing and disinfection. During the 20 days that intervene, the bees are constantly expecting a queen, and therefore polish and repolish up the cells ready for her. This scrubbing apparently cleans out all the old germs of the disease. During the interval of twenty days the nurse-bees use up all the chyle, or larval food, containing a taint of the disease.

Now right here this question may come up. When brood-rearing stops in the fall, there is not only 20 days without brood, but many times 20. Why, then, should these same colonies next spring, as they have repeatedly, come down with the disease? Mr. Alexander explains it in this way: When the queen stops laying in the fall, the bees do not polish up the combs as they do in the height of the season, when the bees are fairly howling for brood or eggs. The combs are left smeared with dead brood; the stuff dries on hard, and is not removed till

the subsequent spring; but in the height of the laying season or brood-rearing season the combs are cleaned up, when the dead matter can be removed in a sort of viscid state, and before it has been glued fast to the walls of the cells. Mr. Alexander and myself talked it over in company with no less a bee-keeper than P. H. Elwood, who was present one of the days when I was at Mr. Alexander's yards. On no other ground can be explained this cure, except, possibly, that the disease might have run its course at the Alexander yard, the same as many infectious diseases do. But when we understand that black brood continues on in other yards in the immediate vicinity where this treatment has not been applied, we are almost forced to the conclusion that the Alexander plan has a great deal to do with the disappearance of the disease.

Another fact that seems to be a part of the treatment is that of the removal of the old queen. In view of the fact that it always pays to requeen at least once in two years, and sometimes oftener, we can hardly count the destruction of the old mother an actual loss. The only loss we can figure on at all is the absence of all brood for 20 days; but this does not compare with the nuisance and expense—the great expense—of destroying thousands and thousands of good combs as well as the frames containing them. Even if we melt them up the return is small comparatively. Then there must be the foundation, which, according to the McEvoy treatment, must be cut out at least once, compelling the bees to try again.

Up to the present time the McEvoy treatment was considered the most effective, but not a cure in many cases. The reason for this is not hard to understand. The destruction of the old combs and the compelling of the bees to draw out two sets of foundation involves the cessation of brood-rearing at least a week and probably longer, and, at the same time, the entire removal of the source of infection that might be in the old combs. But the treatment too often failed because the germs of the disease would still reside in the alimentary tract of the bees, sufficient time not having elapsed (20 days). As soon as the young larvae require feeding, the larval food itself would be liable to have the germs and reinfect the young brood.

Another interesting fact is that Italians are more proof against the disease than the blacks; and why is this so? Probably because they are less inclined to rob, but more probably because they do a more thorough job of *housecleaning* than the native bees of this country.

The question may naturally arise now, whether or not this Alexander treatment would not prove equally effective in the case of foul brood. We do not know. Mr. Alexander is somewhat doubtful, for the reason that the dead matter of foul brood forms a more tenacious glue (and hence an almost insoluble coating that the bees can not remove) than the coating formed by black

brood. This is a matter that can be tested the coming season. In the mean time, our bee-keeping friends in Cuba who are afflicted with foul brood would do well to test this plan immediately. We should like to get reports this winter, so the bee-keepers of this country may know what to depend on next season.—ED.]

THE HOFFMAN FRAME.

Is it True that its Popularity is Due to the Recommendations of the Root Co.?

BY ALPINE M'GREGOR.

I notice that the long controversy on the Hoffman frame is still on; and as it was started, presumably, by my letter to Dr. Miller on page 243, March 15, 1903, I wish to say a few words.

I adopted the Hoffman frame the first year it was introduced by the Root Co., and have been using them ever since by the hundreds, until about two years ago, for both comb and extracted honey. I ought, therefore, to know something about this frame, and I may say that my opinion of it is settled and final.

On page 954, Sept. 15, you say, "The only question with me, or ever has been, is, which frame (the Langstroth or Hoffman) was better adapted to the use of farmers or beginners." The impression one receives from this statement, taken by itself, is that all these years during which you have been advocating the Hoffman frame, proclaiming its merits by voice and press, making it your leader in every catalog right down to the present time, you intended it for the use of these two classes, and not for the expert. You are sure now, and always have been, that the Hoffman is the frame for "farmers or beginners." I take direct and square issue with you on that point.

I suppose that most bee-keepers of to-day were at one time farmers, and it is certain that all were beginners. At just what point in a beginner's life he ceases to be such is not clear. It is well known that a beginner's bees increase very rapidly under the stimulus of enthusiasm and natural swarming, and he probably has 40 or 50 colonies before he is capable of judging as to the merits of either hives or frames. He has started out with the Hoffman frame because it was recommended by some firm or some man in whom he had confidence. He has, let us say, 50 colonies, and more than that number of supers full of Hoffman frames, and now the truth dawns on him (as it assuredly will in nine cases out of ten) that the Hoffman frame is not all he had hoped for and expected; that, in fact, it is far inferior to the old hanging frame. What is he to do? He may, perhaps, sell out to some one who does not know any better than to buy, or he may throw them on the rubbish-heap for kindling-wood, or do as the

writer did—transform them to the regular hanging frame.

As to buying bees from farmers or beginners, I should very much prefer to buy them on the Langstroth frame than on the Hoffman, and for the very simple and obvious reason that, no matter how inaccurately the former were spaced, a few skillful strokes with the uncapping-knife will reduce them so that they can be properly spaced, and then the bees complete the job; whereas with the Hoffman, even assuming that they have been kept crowded together (and they are not), they have to be made over into the hanging frame by long, tedious, and exasperating labor.

I notice that Mr. W. L. Coggshall is one of the victims of the Hoffman frame, as stated on p. 485, June 1, 1903, and he wishes to be rid of them. He probably adopted this frame while he was a farmer and a beginner—or, perchance, like the writer, after eight or ten years' experience as a bee-keeper solely on the judgment, the wide experience, and the mental acumen of the editor of GLEANINGS, under the impression that it was intended for the expert as well as for "farmers or beginners."

Right here let me digress for a moment to say to Dr. Miller that he is right in thinking that I did not mean that "rapidity in handling does not count with me." I meant the rapidity gained(?) in handling the Hoffman, for there is practically none. The prying of these frames apart, replacing them again *without killing bees*, and repairing those edges which are continually splitting off, takes more time than spacing the hanging frame.

You have been convinced, Mr. Editor, that the Hoffman frame is inferior to the Langstroth for the producer of extracted honey, and have frankly told us so. If you could go a step further, and decide that it is also inferior for the comb-honey producer, the farmer, and the beginner, the bee-keeping world would soon know it, and you would find that the demand for the Hoffman frame would rapidly decline, and soon, I hope, cease altogether.

Now just a word to those who find themselves loaded up with the Hoffman frame and wish to be rid of them.

I did not, as intimated to Dr. Miller, whittle off those edges with my knife, as I had not time for that. I hired a boy, put a small plane in his hand, and he planed the edges of both sides of the end-bars. The next problem to solve was how to restore that quarter-inch to each end of my mutilated top-bars. I finally hit on the following plan: I secured a small half-round gouge, about $\frac{3}{8}$ inch in diameter; screwed the top-bar securely in a vise; pulled out the end staple; cut a piece out of the under side of the top-bar with one stroke of the gouge, and drove in a 2 $\frac{1}{2}$ -inch wire finishing nail, using a gauge to drive it the right distance. The only thing lacking was to drive the staple at the lower end corner, which is the proper place for it, and now I have the old hanging

frame again, practically the same as it came from the hands of that grand old man, the Rev. L. L. Langstroth.

Inglewood, Ont., Can., Oct. 12.

[No doubt you will be surprised when I tell you that I do not very greatly disagree with you when we take into consideration the matter of *locality*. What I have said in favor of the Hoffman frame has been based on the *average* locality and the *average* beginner or farmer class. You and the other fellows who are opposed to the Hoffman frame apparently think that the propolis question is the same in every place on this continent. I do not believe I am boasting when I say I have seen the conditions as they actually exist in more localities than any other bee-keeper in the United States; and when I favored the Hoffman frame in my recent editorial footnotes it was after a careful inquiry and study into this one question of propolis, and the tendency of the *average* beginner and farmer class to space their loose hanging frames all wrong. Now, friend M., do not lose sight of the word *average*, and then I think we shall be able to understand each other. I have never insisted that the Hoffman frame was the *ne plus ultra* for all localities for all bee-keepers. There are plenty of editorial footnotes to bear me out in this assertion as well as the general statement under Hoffman frames in our catalog. For example, refer to the write ups of my visits to Dr. Miller's home. When I saw the propolis that was gathered in his yard, and stuck all over every thing, I freely acknowledged that a nail-spaced or a metal-spaced frame was better for such a locality than one having wooden projections like the Hoffman. I strongly suspect that your locality is very much like that of the doctor's, because you speak of the wooden projections breaking off so constantly. While this has happened at our own yard the instances of it are comparatively rare. The only wonder with me is that you continued to use the Hoffman frame as long as you did.

Now, then, to get down to the kernel of the criticism, if the Hoffman frame is unsuited to a few localities, shall we condemn it for localities where the conditions are far more favorable? If I honestly believe it is the best frame, then the only thing for me to do is to be consistent with my convictions. If any one can get up a self-spacing frame that removes entirely the objections to the metal spacers and wooden spacers, a frame that is really practicable for all localities, I strongly urge such person to get his idea patented, and the Root Co. will pay him a fair royalty for the use of the invention. I am frank to say that we are looking for a frame that will suit everybody everywhere; but I am equally frank when I say that I do not think we shall ever find it. Conditions in various localities in the United States vary so much that what is just right for one may be all wrong for another. This is very clearly shown to the Eastern

farmer when he goes west and tries to farm or ranch it as he did down east. As a matter of fact he has to have slightly different tools, and use entirely different methods. The stump-puller is almost a necessity in some localities, but utterly useless in a prairie country. While the conditions surrounding Western bee-keeping are not so greatly different from those surrounding the business in the East, yet there is enough difference, often, to require a different hive and sometimes a different frame.—ED.]

UNRIPE HONEY; OUTDOOR FEEDERS.

Extract Thin Unripe Honey before Uncapping that which is Ripe.

BY HARRY LATHROP.

I have been pleased to observe how GLEANINGS has advocated the thorough ripening of extracted honey; but not all has been said that might be as to methods of securing the desired results. Not many beekeepers have enough store combs to allow tiering up until the whole crop is in and had time to ripen. In my experience I have been able to dispose of considerable amber honey each year at prices very nearly as high as that obtained for the best white. I am careful to have it well ripened, and find many people who prefer those stronger flavors.

Perhaps some who follow the general rule, that the combs should be two-thirds sealed before extracting, do not realize to what extent good honey can sometimes be injured by the mixing-in of green nectar that is found in combs sealed as above.

At one time this summer I had a good many hives that I wished to extract. The combs were thick and heavy, and fully two-thirds sealed; but along the lower edges were many open cells containing thin unripe honey. We waited several days; but as the conditions did not seem to improve, I had my man run those combs through the extractor before uncapping, taking care to turn slowly so as to avoid breaking them. Rapid turning is not necessary to throw out the thin honey in the open cells. The combs, after being run through once, were then uncapped and the ripe honey was extracted. That honey pleases every one, regardless of the fact that it is several shades off from white by the admixture of honey from various sources, other than white clover, which formed the body.

We had several cans of the green stuff, which had a disagreeable taste and was not much thicker than water. I thought of feeding it back, but decided to have it cooked on the stove. This was done, with the result that we got a splendid syrup. It is rather dark, but has a very thick smooth body, and sells readily for what it is—honey syrup.

I never heard of this plan before, so I thought it would be well to report it. Every

pound of well-ripened honey that is sold to consumers is a help to the general industry of bee-keeping, and every pound of unripe honey sold is a detriment to the same.

Some seasons there would be no need to resort to such methods, as the honey will be ripe and heavy in a very short time after it is stored. Last season it was that way on this field. Honey was so thick that it was difficult to handle.

I will give you a plan for outdoor feeding, which may not be as good for curing the robbing nuisance as the one you describe, but it is a safe way to have the feed taken care of without injuring the bees.

In the upper story of an empty hive, having its entrance very small, place a pan or crock of the thin sugar syrup. Use grass or excelsior for float. I have several of these feeders going in different parts of the yard at the same time. This is in order that every hive in the apiary may be the more likely to get some of the feed. The bees, after entering the lower hive, have to go so far for the sweets that it does not excite them too much. Each bee gets its load, and then hikes for home. What a blessing if every man would do the same, and had a home to which he could "hike"!

Bridgeport, Wis., Oct. 6.

NOTES FROM CUBA.

Italian Bees in the Tropics.

BY LESLIE BURR.

"Survival of Italian blood shows them best fitted for the tropics" will not apply to Cuba, for here it is, if any thing, *more difficult* to keep up pure Italian blood than in the North. The reason is, that queens here lay every month in the year, and for that reason their average life is about half as long as that of queens in the North; and, as a result, an apiary of Italians will degenerate about twice as fast. I think there is something in the theory that black drones are quicker on the wing than the Italians, and are not so prone to rear drones, which is another factor in favoring the blacks.

MOVING BEES WITH THE ENTRANCE OPEN.

To do so a great deal depends on the strain of bees you have. I have come in contact with stock from Jamaica, also from some southern queen-breeders, and to *attempt* to move them with the entrances open would be suicidal. We have a case on record here on this island where bees of this strain were being moved, when a hive broke open, with the result that the mules which were hauling them were stung to death.

BEE PARALYSIS.

This trouble, or, as some here call it, "that crazy disease," at times has done considerable damage. There were cases last year where it depleted whole apiaries. It attacked the colonies just before the campanilla bloom, and weakened them to such

an extent that they were worthless for that flow. This year I saw a few cases of it in August. The colonies that were affected were all in one corner of the apiary. The disease seemed to make no distinction between blacks or Italians, as both were affected. With this disease there still seems to be plenty for the scientific investigator to unravel.

THE FOUL-BROOD SITUATION.

The Cubans say, "Wherever American bee-keepers go, foul brood follows;" and one of the extensive Havana bee-keepers says, "I always expect to get foul brood in an apiary about every so often." As to the extent of its existence, I personally know it has existed the past year in Pinar del Rio, Havana, Matanzas, and Santiago Provinces; and much has been shipped into Santa Clara and Puerta Principe Provinces from the others, in some cases from infected districts. I think there is still a chance for the American colonist, who has seen nothing of Cuban bee-keeping outside of his own banana-patch, to become aware some day of the fact that foul brood does exist in Cuba.

TREATMENT.

Conditions here make it more difficult to treat foul brood successfully as it is treated in the North. The best, surest, and cheapest way in the end to handle it here is to shake the colonies, and then move them immediately to a new location.

COMB-HONEY PRODUCTION.

For the average location this is not a success; in fact, there are but very few locations where it can be produced profitably; for to do so you must have a summer flow. Then, again, there is but little of the honey gathered during the summer months that is good enough to compete with the Northern product; so, although the campanilla honey of Cuba is as fine an article as any the North can produce, the cool nights which we have at the time of year it is in bloom make it very unprofitable to produce comb honey.

QUEEN-REARING.

Cuba has several natural advantages for queen-rearing, which are as follows: We have locations where queens can be reared under the swarming impulse during March. That makes it possible to produce the very best kind of queens and have them ready for shipment as soon as the Northern apiarist can use them. And, again, by having the queens mated on a small island, of which there are plenty, a league or so from the coast, pure Italians can be guaranteed; and then last, but not least, thanks to the Ward Line mail boats, which, with the assistance of the Gulf Stream, take but two or three days to reach New York, it is possible to get as quick delivery as from the Southern queen-breeders.

The disadvantages are, of course, foul brood, paralysis, and the like. But Cuba is no worse in that respect than many parts of the United States; and the danger of buying from Cuba would be no greater than any-

where else. You always have to depend somewhat on the *honesty* of a queen-breeder as to what kind of stock you get.

Casanovia, Cuba.

SHALLOW HIVES, AGAIN.

Advantages in Favor of Having the Brood-nest and Super for Tall Sections One and the Same Depth; Preferred, though, a Brood-nest Slightly Deeper; Foundation in Fall Sheets instead of Starters.

BY W. K. MORRISON.

It seems as though I should have to say another word with reference to the shallow hive, though it seemed to me that my remarks at the time had about exhausted the subject; at least, so far as my personal feelings went the subject had been fully exploited. But the article by Mr. E. F. Atwater, June 15, brings up the subject of starters and shallow frames in such a way as to call for a reply on my part. (Messrs. Root and Danzenbaker will have to defend themselves.)

Now, there are renegades besides myself — Messrs. Stachelhausen, J. E. Chambers, and L. Scholl, for example. They are professionals, while the writer is an amateur. However, I have reasons for the faith that is in me when it comes to the case of starters vs. sheets of foundation in a brood-nest. My experience in bee-keeping covers a period of 35 years, in quite a number of countries, with all sorts of hives and appliances, and nearly always a buyer and seller of bees and hives, and my experience leads me to affirm most strongly always to use full sheets of foundation in brood-frames, and also *wire your frames* — particularly so if the reader be a novice. You may get tired of bee-keeping; you may have to move, you may have to give up for many reasons, and then when you want to sell you'll wish these frames of yours had had full sheets and were wired. Oh my! you'll wish many times over you had done so, when it's too late. There are other reasons. It seems like folly to buy fine hives and then waste a fourth of the inside of them with worse than useless drone comb and transition cells. To some extent this explains why some people get better results with eight frames than others with ten. I am quite well aware that nice wired combs may be had by using starters, but with a good deal of unnecessary fuss and bother; but most people fail, and get more drone, crooked, and bad comb than they ought to have. That is my experience.

Not long ago one of these old-fashioned *practical* men asked me to sell his apiary for him; but such a thing was almost impossible. It was immovable, and it remains — rotting. *He used starters in his brood-frames.* That's all. I can assure Mr. Atwater and any other doubting Thomas that my experience has cost something, and, like

Aneas, I can say, "The greater part of which I saw, and some part of which I was."

Yes, I'll say it again, using starters is a step backward — it's ancient history. Don't do it, Mr. Beginner. You will bless me later for the advice.

All sorts of methods have been proposed — the Barber plan, the "shook" swarm plan, the Townsend plan, the "bait" plan, to get the bees to deposit all their honey in the sections without delay. Now, what I propose is to use a shallower hive, and so cut the Gordian knot. There is no doubt that a hive shallow enough will do the business every time.

Generally this plan is opposed with the statement that the bees will carry pollen into the sections. My experience is opposed to this; in fact, I found if starters were used in deep frames there was more chance of getting pollen upstairs. It seemed to me the parties who reported this had had a limited experience along this line. They use a shallow frame in England with no bad results, and some of the most enterprising bee-masters in the world follow this method. The new edition of the A B C shows Mr. Louis Scholl in the act of opening just such a hive as I suggest (see page 226). This is not a small hive by any means, though some labor under the misapprehension that I advocate small hives. The Ideal super with shallow extracting-frames forms, to my mind, a very good hive — very much so for out-apiaries. It is capable of almost indefinite manipulation. It is light, and easy to handle. But where it leaves all rivals hopelessly behind is when it comes to the production of comb honey.

I am of the opinion that it can be improved. An inch added to the depth would suit me better, and an inch to the width to allow of 12 frames $1\frac{1}{4}$ inches from center to center. The object of this increase is to make one super the equal of an eight-frame hive in brood capacity, and also to get 45 lb. sections in a super. This latter improvement reduces the number of under-weight sections; it also reduces the work and the cost of the hive. If one super will do the work, why use two?

For Cuba, Jamaica, and other hot countries, a shallow hive for comb honey is a necessity; and even for the far North it is no fault if the brood-frame is shallow provided it is large enough to accommodate a fair-sized colony. A divisible brood-chamber is somewhat of a nuisance. It just doubles the work, with no compensating advantages. Personally I have secured fair results with a brood-chamber no larger than an Ideal super, and where poor seasons are the rule it may be a good thing to use it. Where one wants to produce both comb and extracted honey there is nothing better than a hive made up of three Ideal supers. This gives a super of comb and a super of extracted alternately. The queen is restricted to one chamber; but every time an extracted super is put on, some of the brood-combs are lifted from below and put on top. This

puts a check on swarming, and is better than "shook swarming," as there is no loss from sulking or the bees going off and swarming out. This is an ideal way with any one running an out-apiary. Of course, a queen-excluder must be used. I generally lift the combs containing solid masses of brood, leaving the ones with pollen for the queen to breed in. As a check to swarming it answers very well; but the only real effective method of swarm prevention is removal of the queen for a time, and for this method a shallow hive answers very well. In a shallow hive it is easy to locate the queen, and it is very easy to shake the bees off the frames. It means easy, quick work all round. Try it, friends, and be convinced.

[This question of foundation in full sheets or starters is one that hinges a good deal on locality and the man, as well as on the season of the year when it is practiced. I believe with you, however, that the average beginner would do better to use foundation in full sheets until he learns the times when he can give the bees starters and have them worked out into worker comb; for an expert can get all worker comb if he knows *when* and *how*.

The arguments that you have advanced in favor of a shallow brood-nest, or, more strictly speaking, a divisible brood-nest, is about the same as those advocated just about 19 years ago when Mr. Heddon and others brought this feature prominently before the bee-keeping public. I myself have always been an admirer of the system, believing that there were wonderful possibilities in the use of a sectional hive; but for some reason for which I can not account, notwithstanding all the pretty arguments that have been advanced in favor of such hives very few of them, comparatively, seem to be in use. Where used at all they seem to be by experts.

When you advocate a brood-nest slightly deeper and wider than the Ideal super for taking tall sections, you are urging almost the exact dimensions that Mr. Danzenbaker adopted for a brood-nest.—ED.]

A "GROWING" WAX-PRESS EMBODYING SEVERAL NEW FEATURES.

California Lizards.

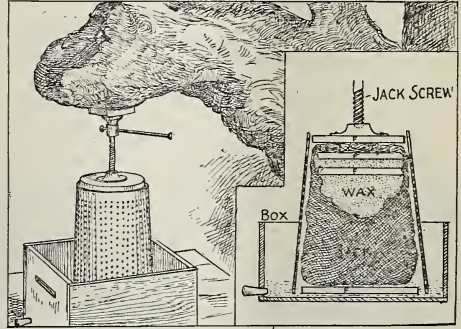
BY J. W. GEORGE.

I am sending you two pictures. One is the picture of a lizard. You know the "gag" here is that California is noted for big liars and little matches, and I think we



might add big lizards to the list. The one whose picture this represents measured only 17 inches from tip to tip.

The other picture represents my wax-press. I think this is the *only* wax-press of its kind in existence. I do hope that none of those fellows who are always "bobbing up" and butting in, and claiming to have been using the same device for years, will not rob me of all the glory of having originated this press, for the glory and the use of this individual press is all I shall get out of it, for I have none for sale. It takes too long to grow them. This one has been in course of construction for many years.



Mr. Editor, you have claimed that the best press would be a spring and screw combination. I have it in this press. I use a $1\frac{1}{4} \times 10$ -inch jack-screw, and a sycamore tree which is about 30 inches at the butt. It bends over in the form of a bow and comes near the ground about 16 feet from the root. I place my jack about 12 feet from the root of the tree. I screw the jack up until it raises the body of the tree at the 16-foot point two inches. You can have some idea of the pressure I get by looking at the body of that tree, and imagining the lowest part of it being raised two inches, and held in that position.

The wax is held in a cylinder made of 16 iron, 12 inches in diameter at one end and 13 inches at the other, and punched full of holes, and just long enough to hold a barley-sack which I place inside and pour the hot wax into the sack. I use four followers that will just pass out of the lower or small end of the cylinder. Two followers go inside of the sack—one under the bottom of the sack and inside of the cylinder, and the other on top of the sack after it has been folded over the wax. This cylinder holds heat well. I have had the wax drip for an hour under that pressure. The cylinder is inside of an ordinary box which is watertight, and has a hole with a plug for drawing wax off when the box is full; but the box *must* be placed on a solid foundation.

I will say to any one who has a similar bending tree that you have the principal material for a fine wax-press. Mine cost me an empty hive, which I use for the box, an old piece of sheet iron, half a day's work, and \$1.65 for a jack-screw.

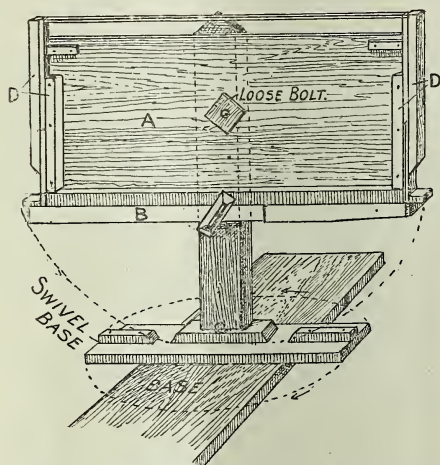
Lakeview, Cal.

[There is no question but our correspondent has something valuable in the way of that big tree to work in conjunction with a wax-press. As I have before pointed out, a spring and screw in combination, where they can be applied, is better than a screw alone. Now, it just occurs to me that one or more trees can be found in the average apple-orchard in the North, with low-spreading limbs that can be used to reinforce the jack-screw, as shown in the illustration. Every locality will have some kind of tree that can be used for the purpose.—ED.]

A DEVICE FOR HOLDING FRAMES WHILE NAILING.

BY A. J. WILHITE.

Common lumber is used throughout the construction of this holder. *A* is an inch board 17½ inches in length. *B* is the same length, 2¼ inches wide. Two upright pieces like *D* are nailed at each end of *A*; they are 2¼ wide, ½ thick, but lack 1¼ inches coming to the top of *B*, which open space gives you the room for nailing. The holder is loosely bolted to the upright piece *C*, and



C is securely nailed to one side of the center of the base-board 7×14 inches, and the base-board at *C* is loosely bolted through another board 5 feet long, thus making it possible and convenient to have the holder in any position while nailing. At the end of *B* is a guide, stopping the top-bar of the frame in exactly the right place; and with the button at *B* turned there is no slipping of the frame. It makes it possible to adjust a frame in an instant.

TO USE THE HOLDER.

Press down the end of the holder with *D* on until the bottom of *B* rests against the cleat next to *C*, and the extreme end of the frame rests against the cleat nailed lengthwise of the base-board. In this position nail one end of the bottom-bar of the frame,

then tip this end of the holder *up* until the reverse end of the holder and the frame rest as the previous end did. Nail the upright piece to one end of the top-bar of the frame. Turn the other end of the holder to you, and finish nailing the bottom-bar of the frame; then tip *down* the end of the holder that is *up*, and complete the nailing.

Kirksville, Mo.

[It is our experience that no arrangement is needed to hold the frames square while they are being nailed; for, when the pieces are cut square and true, the nails will draw the corners up perfectly square, so that it would be practically impossible to get them wrong. We find that we can nail the frames faster without making use of so complicated a holder.

But not every one can nail up hives and frames without a form. Perhaps the one shown by our correspondent is as good as any thing that has been placed before our readers. But all factory-made frames now when put together will hold their position very satisfactorily for nailing, without any thing to hold them in place; but where frames are made at a planing-mill, without any lock-cornering, a form would be almost a necessity.—ED.]

MISCONCEPTIONS ABOUT CUBA CORRECTED.

Two Cuban Writers at Loggerheads with Each Other.

BY C. F. HOCHSTEIN.

What funny things we read in GLEANINGS! It ought to have a "contradiction department," with me its chief editor at a good salary. I will guarantee to contradict any thing and every thing under the sun. On page 652 our friend Leslie Burr puts the pamerosa as the greatest honey-plant in Cuba. I have solid miles of it, commencing within a stone's throw of my apiary. I've made three crops in this location, and I have yet to see the first pound of pamerosa honey in my hives. Although I have watched them, yet I hardly ever have seen a bee on its bloom. As to the algaroba, of which I have plenty around me, I never did see a bee go near it.

Any one reading friend Burr's article on page 714 would think that we bee-keepers here in Cuba had nothing more to do than to take off honey from Nov. 1st to the end of February, then go to slashing out the wax from March 1st to the end of October. We have some other things to do. Sitting on the front porch clipping off the interest-bearing coupons from our government bonds as fast as they become due keeps us busy a good deal of the time, and is just as easy as slashing out that wax.

I cut out all the chunks of drone comb I had in my upper stories the first part of April. Now we have nearly the end of

July; and if I were to go through my 700 colonies to-day and cut out all the wax, both drone and worker, that has been built since April 1st I'm sure I should not get 7 lbs. of wax out of the 700 colonies. And it can not be the fault of the bees either, as most of my bees are supposed to be great-grandchildren of Root's famous \$200 queen, and my colonies have from 9 to 17 combs of brood per hive. If the bees and bloom will do their part, friend Burr's manangement is all right for Cuba. I agree with him in his way, excepting the spacing to seven frames. I find eight better, as, with only seven, some kinds of honey do not get fully ripened before being sealed.

Last year one of our prominent bee-keepers told me that the guasima gave lots of honey. At the same time, I had 150 colo-

A VISIT AT THE SWARTHMORE QUEEN-REARING YARDS, SWARTHMORE, PA.

A Glance at the Man and his Manner of Working; John Hooker.

BY E. R. ROOT.

As announced in our issue for Sept. 1, among other bee-keepers I visited in the East was E. L. Pratt at his apiary at Swarthmore, Pa. I was accompanied by Mr. W. A. Selser, and later was joined by Mr. John Hooker at 4422 Chestnut St., Philadelphia. Mr. Hooker has for many years been one of the leading bee-keepers of Great Britain, a contributor to the columns of the *British Bee Journal*, and a personal friend of such men as Thos. Wm. Cowan, the late Frank Che-



A PARTIAL VIEW OF THE SWARTHMORE BABY-NUCLEI MATING-YARD, LOOKING TOWARD THE MAIN YARD.

niës starve to death under guasima-trees that were just as full of bloom as they could be, and not a bee on them.

The year before, I was visiting a bee-keeper who was writing an article on the eight-months' honey-flow of Cuba, while he was feeding his bees from six to eight months of the year.

Punta Brava, Cuba, July 17, 1905.

[A part of the conflict in opinion comes, no doubt, from the difference in locality. A plant, for example, that will yield honey in one place may yield none a few miles away.—Ed.]

shire, and other bee-keepers of note in England. Mr. Hooker, who is residing temporarily with his son in Philadelphia, heard I was to visit Mr. Pratt, and, thinking that I might possibly be at his place on that day, had taken the trolley, with the result that we all met together in a little informal convention to discuss queen-rearing, and the Swarthmore system in particular.

Mr. Hooker, who has long been an admirer of the Pratt system, has been the means of introducing it to a great extent in England among his fellow-countrymen, where Swarthmore is, perhaps, better known than even in this country. But Mr. Selser and I



THE SWARTHMORE MATING-YARDS, W. A. SELSER AND JOHN HOOKER IN THE FOREGROUND.



E. L. Pratt.

E. R. Root.

John Hooker.

DISCUSSING BEES IN A SHADY NOOK AT THE SWARTHMORE QUEEN-REARING YARD.

had come over to see Mr. Pratt perform some "stunts" in queen-rearing, described in his booklet, which we in Medina had not been able to accomplish. One of them was to get the bees to supply the grafted larvæ with royal jelly. The *modus operandi* is so carefully and minutely described in Swarthmore's book that it will not be necessary to go into details here. Suffice it to say that Mr. Pratt gave us a practical demonstration of what he is able to do; but, surprising to relate, after seeing him do it I communicated the plan again to our boys here, but they failed to make it work, and



E. L. PRATT AMONG HIS BEES.

finally went back to grafting both the jelly and the larvæ. It was so late in the season after arriving home that I did not have a chance to try it myself.



W. E. FLOWER.

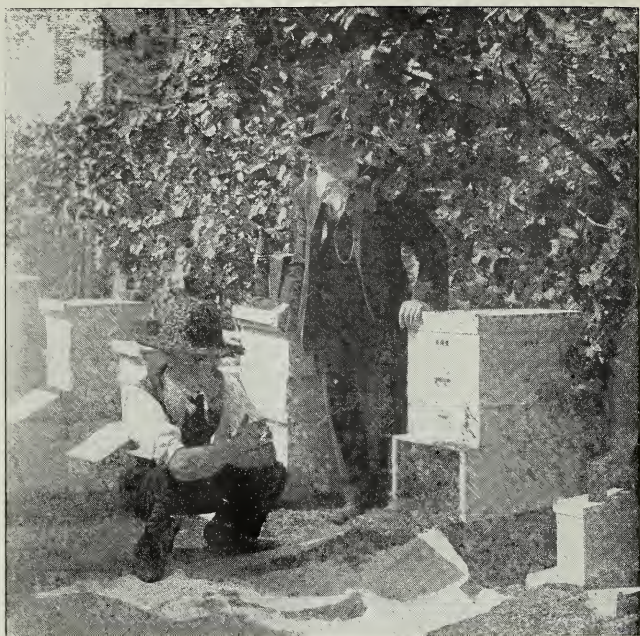
Mr. Pratt's specialty is not only five-banders, but "go'den-all-over" bees. He showed me some from his best breeder where the abdomens of the bees were all bright yellow except a small black tip at the very end. He was confident he could eliminate even that.

Mr. Selser reported that, on a previous visit, he found these extra yellow bees gentle; but on the day of my visit some of them seemed a little disposed to sting. As a matter of fact, our host opened his hives without veil or smoker. In opening one particular hive he aroused the ire of his pets; and then, for the benefit of his visitors, I suppose, he hunted up a veil or two that had evidently never been used, and a rattle-trap of an antiquated Clark smoker that looked as if it had not had any fire in it for something like eight or ten years. As a matter of fact, our friend does not use a smoker or veil ordinarily in any of his bee work. This will ac-

count for the dilapidated condition of his one and only smoker.

One can scarcely imagine the charm of Mr. Pratt's manner of describing his system until he hears him talk and sees him go through with some of the more difficult "stunts" that have puzzled some of his followers. Mr. Hooker told me he had visited him many a time, and that he fairly revels among his bees. He watches them by the hour; and after hearing our friend Swarthmore describe in detail his system I became thoroughly convinced there is hardly another man in the United States, if in the world, who understands the actual habits — that is to say, natural history — of the bee better than he.

His yards devoted to queen-rearing are located in the rear of some pleasantly located suburban property. I took several snap shots, and give three of them which will explain themselves. Mr. Pratt has a very comfortable rustic seat in the shade of some trees in one corner of the



W. E. FLOWER WITH A SWARM OF BEES ON HIS HAT.



W. E. FLOWER HIVING A SWARM OF BEES.

yard, and close to one of his bee-rooms. Three of us seated ourselves on the aforesaid seat. What did we do? Why, we talked bees, of course; and you would think so from the snap shot taken by Mr. Selser, for this was too good an opportunity for him to let go by. When I in turn desired to "return the compliment," and requested him to take my position between two of the leading lights of beedom, he stoutly protested. As may be surmised from the picture, Mr. Hooker was talking to both Mr. Pratt and myself. We have already shown views of the Pratt bee-yard; but I had retired to the back end of the pathway, looking over into the main yard just beyond, where the strong colonies are located. From this and the other picture it will be seen that the babies are located on stakes in the tall grass out in the open. The other view shows Mr. Selser and Mr. Hooker in one corner of the baby-nucleus yard. Mr.

Selser, as will be noted, was taking notes; and, before he was aware of what was up, I had my "revenge."

DOING STUNTS WITH THE BEES BEFORE A CROWD.

BY W. E. FLOWER.

I send you a few snap shots that were taken in my apiary on June 3, at a meeting of the Philadelphia Bee-keepers' Association. The bees were handled without gloves, smoke, or veil, and no one received a sting but your humble servant, who accidentally pinched a bee between his head and the hat-band when placing the hat, covered with bees, upon his head. The bees were from queens bought of Doolittle. The stunts were all done in the presence of thirty or forty people—men, women, and children.

Ashbourne, Pa.

[W. E. Flower is an enthusiastic bee-keeper, although his business is that of making fine edged tools. He frequently lectures on bees, using a stereopticon, and I understand that he is already booking dates for the winter. — Ed.]



ITALIAN BEES, AGAIN.

"Say, Doolittle, did you notice in the October 1st GLEANINGS how Editor Root had you 'foul' on the way you mixed up 'varieties,' 'pure stock,' and 'thoroughbreds'?"

"Well, Jones, I presume it is likely I did not make matters quite as plain as I might. Probably I should have used the word *race* to give the meaning expressed by pure stock, using that word in the sense expressed by the Student's Standard Dictionary, as 'A variety so fixed as to be reproduced by seed.' I entirely agree with Bro. Root in what he says in regard to species."

"But is not that the same as Bro. Root quotes from the Standard Dictionary as 'thoroughbred'?"

"It may appear so; but my idea of *race* and *thoroughbred* is that a certain *race* will not sport but reproduce itself every time, while a *thoroughbred* will sport more or less, always. I do not have any thing but a copy of the Standard Dictionary for Students, which I suppose is an abbreviation of the Standard. In my Student's I read, under the head of 'thoroughbred,' 'bred from the best or purest blood.' And this is the way I take the matter."

"Explain a little more fully."

"Very well. Take the German (or black)

bee, which I call a *fixed race*—that is, a race so fixed that it will reproduce itself every time. I have tried the matter over and over again, and any black queen of the sixties or early seventies, or before the Italian bee was introduced into these parts, would give queens like herself, *duplicates* of herself as to color. *every one of them*, no matter whether you raised 10, 100, 1000, or 1,000,000—all just exactly alike. Such is what I call a 'fixed race,' or 'pure stock.' Now take an Italian queen, one imported from Italy, one of the best of such an importation, and raise queens from her, and you do not have to raise ten queens before you will find that you have them varying in color all the way from a maroon or leather color throughout the whole length of the abdomen, to an abdomen striped with maroon and black, and some with the whole abdomen as black as is the abdomen of those black or German queens. If a queen giving such a ring-streaked, speckled, and spotted *queen* progeny can be called pure, or of a fixed race or type, then I am at 'open sea' in this whole matter. I call such queens *thoroughbred* in the sense of those words from my Student's Standard Dictionary; they are bred from the best and purest blood or stock they have in Italy."

"But you don't think that others have found so great a variation of color in the queens from imported mothers as you describe, do you?"

"If they have not, why have the prices of imported queens been made to correspond with their color? Have you never had circulars from those importing queens quoting the selected—that is, the yellowest, of them—for nearly or quite double the price of those that were the darkest, with a price about half way between for an average of the lot?"

"Yes, I must acknowledge that I have read such circulars."

"And this thing is only the bringing-up again of the 'yellow-band' matter which was so thoroughly discussed during the seventies. We were told at that time that 'no Chinese walls or snow-clad Alps' could keep the bees in Italy from mingling with other bees in the country round about these so-called *pure* Italians. It was fully proven at that time that the Italians are not a pure race, and yet the great mass of bee-keepers have gone on calling them 'pure' just the same."

"But the color of the queen progeny was not given as the test, was it?"

"No. It was three yellow bands on the workers. And the dissatisfaction ran so high that, to meet the same, the A B C book and GLEANINGS told how the bees from these imported queens must be placed on a window, after first being filled with honey, in order that they might show all three of the yellow bands, and thus be told from the 'two-banded' hybrids."

"That would be a good test, surely."

"Do you think so? Well, this helped me to show that the poorest specimen of these two-banded hybrids, as they were called,

which showed any yellow or maroon coloring on any one of the horny scales of the abdomen would show it on *three*, if thus filled with honey and placed on a window. I have always stood out against a purity which could not be told without such a minute scrutiny, and a color that could not be told as yellow only as a full sac of honey and the golden sunshine from beyond the window must turn the maroon into gold."

"But is there not danger of getting down to too fine a point on what might be considered an unimportant matter?"

"Perhaps. Of course, all know that the color of bees should have very little to do with their desirability; for it is the queen that gives the worker bees that will give the best *results in honey* that the practical bee-keeper is after as the most *desirable* bee."

"I think that is right."

"Undoubtedly it is. But we have been taught for the past third of a century, and with greater emphasis, if possible, to-day than ever before, that the Italian bee is *just the bee* to give the best results in honey, or is the most desirable for honey."

"Don't you believe it?"

"Yes. But how is any purchaser to know whether the queen he receives is Italian or not?"

"By the markings of her worker progeny."

"Yes. But what are these markings to be? 'Oh! any thing, almost, so long as they are good workers,' was the answer given by one who advertised and sold hybrids as the best working bees. But the public was not satisfied with this thing, and again demanded something tangible to go by when they were buying Italian bees and queens. And so we are brought back to the *markings* of the Italian bee as a starting-point when we are buying the most desirable bee on the earth."

"Yes, I see. But if they are only a thoroughbred, and given to sporting, what difference does it make?"

"If we could be sure that all grades of hybrids would be just as good workers as the bees from a queen whose worker offspring showed three bands or more, then this matter of markings would be an unimportant matter; but when you come to consider that, the further off toward the black we get from the three bands, the poorer the bees average for honey, then these markings change from an unimportant matter to one of much importance. The queen trade is assuming gigantic proportions, many queen-breeders reaping two or three times as much from their queen-trade as from their crop of honey; and once let the practice become common of selling 'almost any old thing' to the customer, instead of striving for the *very best bee in the world*, and the queen trade will be a damage to apiculture instead of a help; and, if I see aright, we can not be certain of this best bee only through its markings, even though the markings be that of a thoroughbred."



QUESTIONS.

As it's a long call to Medina I trust you will pardon the number of questions.

1. Can you throw any light on why bees (wild ones) captured with sealed brood during scarcity of pasture turn upon the brood when hatched out, and swarm?

2. Will you let me know the average difference in price between comb honey and extracted?

3. Can 4×5 plain sections (Danz.) be used in an extractor?

4. Will brass fittings, such as a tap in a galvanized tank, taint honey?

5. When Danzenbaker, regarding control of swarming, p. 40, *Facts about Bees*, says, "Place them with the queen and all her bees in a *new* body on the old stand," does he mean it must be absolutely a *new* hive, or will a clean second-hand hive do?

Ubambo, S. Africa.

ZULULANDER.

[1. I am not sure that I fully understand your first question, where you inquire why captured colonies during a scarcity of pasture "turn upon the brood when hatched out." If you mean larvæ just hatched from the eggs, then I would say when there is a scarcity of food they will destroy the brood, because they must eat the food given to the larvæ in order to survive. If you mean that the brood is destroyed when it hatches out into young bees—that is, the young bees are destroyed—then I can give you no solution to the problem.

2. Comb honey varies in price according to the markets; but in this country it sells from a third to a half higher than extracted. In some cases it sells for twice as much; but that is when the comb honey is extra fancy.

3. The 4×5 plain sections can be used in an extractor.

4. Brass fittings on a galvanized tank would have no appreciable effect on the honey; but honey left for any considerable length of time in a small galvanized vessel will absorb some of the zinc, giving it a bad flavor.

5. In the method for swarm control mentioned in Danzenbaker's book, either a new or second-hand hive will answer the same purpose.—ED.]

INCREASING THE CROP OF HONEY AND CONTROLLING SWARMS BY REQUEENING.

I have discovered a method by which I get large crops of honey and no increase. Let me say the plan is applicable only for those who can be in the yard all the time during the swarming season.

Have the queens clipped, and when the

swarm comes off destroy the queen and allow the swarm to return.

When that colony casts another swarm it will, of course, have a virgin queen, which will settle on a limb low down, if they do as well-bred bees should. Now open the hive and cut out all queen-cells and return the swarm to the parent colony, and the job is done. It answers equally well when working for comb or extracted honey.

Why I like the plan is, first, I have all young queens, which I think quite an advantage, both for summer and winter; second, the bees are no longer queenless than they would have been had they swarmed naturally without manipulation; third, they will not swarm again that season—at least, not in my locality. This I say advisedly after a four-years' test.

Perhaps you don't want to destroy all your clipped queens. If not, here is your opportunity. Cage your clipped queen and fasten the cage with the queen on the end of a stick about a yard long and hold it near the entrance when the swarm is returning, till you get what bees you want, when they are taken to your nucleus. Every bee will stay where they are put, as they have swarmed naturally and have their queen with them.

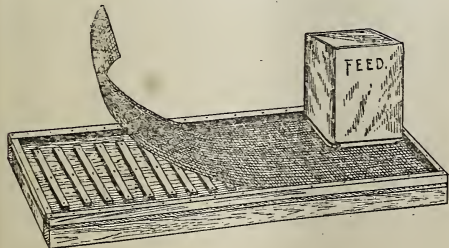
J. M. CRUICKSHANK.

Aylmer West, Ont., Can., March 11.

[There are a few bee-keepers who advocate requeening every year; but the majority think that every other year is often enough. There is a possibility, however, that year-old queens might be enough better to warrant the change, if not for the reasons urged in your letter.—ED.]

AN OUTDOOR ATMOSPHERIC FEEDER.

I notice that you want to find a perfect outdoor feeder, so I will give you a description of one that is in general use here, and which I think is the best feeder that I ever saw. I have been using it about eight or ten years, both to stimulate to have bees strong at the beginning of a honey-flow, and also to feed for winter stores. I put one part honey to six or eight parts water to start with, and gradually increase until I have equal parts of each, which I think is



about right for winter stores, but I think less is better when you are feeding to stimulate. To make the feeder, take two twelve-inch boards about five feet long; three pieces 2x4, two feet long, set up edgewise, on which nail these plank which are to

be the bottom of the feeder; then nail a piece about an inch thick and 1½ inches wide on all four sides of this bottom, which is to form a trough, in which put strips about half an inch thick and one inch wide crosswise of the feeder and about two inches apart, and within one inch of the sides of the feeder. This space between the strips and the sides of the feeder is to allow the feed to run down to the other end of the feeder from the can. Of course, there could be some grooves cut out on the under side of these strips, which would answer the same purpose and would probably be better. Over these strips tack wire gauze, which is to keep the bees from getting into the feed. I generally use a little wax in the cracks to keep the feeder from leaking. Now just take a sixty-pound honey-can, filled with water and honey mixed, and invert it on this feeder; put the can in one corner of the feeder, and have two sticks half an inch thick to put under the edges of the can that extend over in the feeder, so as to keep the bees from getting under the can, as they will crowd under there so thick that a lot of them will get drowned.

Uvalde, Tex.

W. D. BUNTING.

[Your feeder would work very nicely; and the only objection I could mention would be that it lets the bees feed too fast; and, moreover, they would struggle against each other on the wire cloth until they would wear each other out.—ED.]

BEEES HUNTING A SUITABLE PLACE BEFORE SWARMING.

I saw an account of bees going out and hunting a place to occupy before they swarm. I have seen two cases where it looked very much as if they had located or found their new home before swarming. One went into an old building. For two or three days they seemed to be cleaning house, as they threw out particles of plaster before the swarm came. The second instance was of a swarm in a granary. The bees flew from the granary to a hive, back and forth, and finally located in the hive. They went to the hive very much as if they were working. What is your idea? Did they find these places before, or is it a usual thing?

Shannon, Kan.

R. L. VAN HORN.

[There can be no question that bees very often select a new home before swarming. There have been a good many cases on record like the ones you describe.—ED.]

FEEDING AND WINTERING BEES.

I commenced bee-keeping last spring with 25 colonies. I now have about 50, after losing several swarms at swarming time. I should like to get some pointers, as I am a beginner.

1. How soon should I commence feeding late and weak colonies?

2. I have a dry cellar dug in loamy soil in a valley. Steam heat for dwelling above comes in through the cellar at one end; is 24

×60 ft., partition in center; three small windows in end where steam heat comes in; one small window in opposite end. Would the cellar be a good place to winter the bees? Which end of the cellar would be better?

3. About what time should they be put into winter quarters; give best way to arrange them, and any hints you think best for beginner.

4. Is table oilcloth as good as carpet for inside cover between hive-cover and frames? Williamsport, Pa. MORRIS R. SAYER.

[1. If you have not already fed your bees, it may be too late to do so this season. Bees should ordinarily be fed in September, if they lack stores. They can be fed in late fall if weather will permit; but in this case the syrup should be thicker than one part of sugar and one of water; that is, two of sugar and one of water. If you select a warm day one big feed can be taken down in a single day and night; but even then it is better to give the syrup hot, but not so hot but you can bear the hand in it. This the bees will take down much more readily than cold syrup.]

2. The cellar you describe, using the compartment opposite where the windows and the steam-pipes are, would make an admirable place for wintering bees, providing the temperature does not at any time go above 50. It should be dry, and capable of ventilation from the steam heat side, providing such room does not get too warm. In that case I would open the one window at night and close it before morning. Keep this window darkened during the day. A dry well-ventilated cellar, where the temperature does not go above 50 nor lower than 40, makes an ideal place in which to winter bees. The nearer you can come to securing these conditions the better.

3. This will depend on the locality. In the vicinity of Medina we put our bees in about Dec. 1. This is along about the time when we begin to have good solid freezes and one or two good snowstorms. In some localities the middle of November will not be any too early. In others, Jan. 1 will be soon enough. The longer that bees can be kept out of doors without too much exposure the better.

4. Table oilcloth will answer an excellent purpose; indeed, I should prefer it to any other material.—Ed.]

A TREE FOR AN OUTDOOR FEEDER.

For an outdoor feeder could you make any thing that would be better than a well-branched tree? Spread oilcloth under the tree as far as the branches, and then spray the tree. I have not tried it as I have no sprayer, but I believe it would work.

Omaha, Neb.

GEO. H. PLACE.

[I am not sure but your suggestion has considerable merit in it. If the tree were very bushy and low down, I hardly think it would be necessary to spread any thing under it. The syrup should be thin, and even spread with a force-pump. The only ob-

jection to the plan is that the feed will be liable to dry on the leaves before the bees find it. If that were the case, the tree might be sprayed with clear water to moisten up the residue of sugar.

Your plan would have the distinctive advantage that there could be no scrambling on the part of the bees. If a row of a dozen trees or so were sprayed in this way with very thin syrup, the whole bee-yard could be made wild with delight. One tree, however, would be enough to keep robbers busy so that one could work with some degree of comfort in extracting if he so desired.—Ed.]

HOW TO AVOID THE LITTER IN UNPACKING WINTER CASES.

I have just read the foot of the second column, page 1010, about the litter in unpacking. When I bought winter covers for my two hives I put them together and "tried them on," and concluded there must be some way you had for avoiding clutter in the spring. Having no one to instruct me I figured it alone. I tacked burlap all around inside the bottom of the case, set it over the hive, and filled the burlap bag with cork chips. Next spring I had no trouble nor clutter lifting the whole off by lifting on the top of the burlap bag. Case and chips came right up. I had not enough chips for my second hive, so I stuffed newspapers equally all around the hive, using them folded just as I brought them from the pile in the loft. On top (both hives) I put a super with a loose bag of cork chips that made a layer three inches thick. To the best of my knowledge not a pint of bees died in the winter or early spring. I have always used chips since, because I supposed them better than paper.

N. A. SPARHAWK.

Boston, Mass., Oct. 13.

UNOCCUPIED BEE RANGES IN ALABAMA AND MISSISSIPPI.

Mr. Root:—The enclosed clipping is from *The Seaside Whistler*, published at Bayou La Batre, Ala., and I should be glad to see it reproduced in GLEANINGS.

W. D. SOWELL.

Brewton, Ala., Sept. 26.

I have received many inquiries as to my success in the production of honey at Bayou La Batre, and am now in a position to state that I have more than realized my expectations. From 54 colonies of Italian bees I have taken 3294 pounds of honey, spring count, making an average of 61 pounds per colony.

By controlling swarming I can far exceed this average at other seasons, and I find that I can get a considerable quantity of honey during September and October that I had not expected of the range. There is a tall weed here that at this writing, September 20, is in full bloom, and my bees are storing much honey from it. It has a small white bloom which is very fragrant, and yields nectar equal to tite or gallberry, and there are hundreds of acres of it in reach of my apiary. I have never seen this weed anywhere else, and am ignorant of its botanical name, but will soon get the information by sending a sample to the Department of Agriculture. Besides this weed there are other wild flowers that produce nectar in the fall season, making this an excellent bee pasturage for fall storing of honey. The greatest yield here is obtained from tite and gallberry in early spring, and the quality of the honey produced is of the highest grade. There is a vast unoccupied territory for bee-keepers in Alabama and Mississippi, and, apart

from the pleasure derived from the pursuit, the remuneration is satisfactory. Bee-keeping is fascinating to one whose heart is in the avocation, and one must love his bees to make a success of the business; and every progressive bee-keeper realizes the benefits to be derived from taking at least two bee-journals and reading the standard bee-books. There is no place more delightful for bee-keeping than the coast country of South Alabama. We not only have the bee pasturage, but, besides, we have fish and oysters in abundance, a lovely climate all the year round, where the winters are mild and the summer heat is tempered by the refreshing sea breeze that is so pleasant and invigorating "in the good old summer time." OSCAR S. RUSH.

COMB HONEY ATTACHED TO FENCES IN SUPER.

Would you be so kind as to give me a little advice on the following? On the 1st of June I put into a Danzenbaker hive a good-sized swarm. I examined it to-day. The bees have almost the 32 sections capped over except the two outer rows of cells; but they have connected the sections and the fences with lumps of comb so that, when I take out a section, that lump of comb tears off, leaving a bad scar on the section of honey, which starts to ooze out. The lump of comb sticks to the fence. I gave them another super with sections, and put it between the brood-chamber and the filled super. Was that correct? How can I remedy the other sections that are glued to the fences? Would it be a good idea to take all the sections out that are glued to the fence, clean the fence, put it all back on the hive, and let the bees repair the scars on the sections? Would the bees glue them back again, even now, while they got more room to build comb in the other super? H. STOCK.

Augusta, Mo., Aug. 12.

[In rare instances we have had reports something as you describe, and I can only lay it to a tendency in the particular strain of bees to make such comb attachments. Such bees will build brace and burr combs in the brood-nest in profusion. A year or so ago a correspondent reported that there was just one colony in a hundred that he had that would do this. Thinking the difficulty came from that strain of bees he requeened, and the following year he had no further trouble. But there are other conditions that may cause the bees to build these combs—that is, a crowding of the super unnecessarily. When they have jammed every thing full, and still lack room, they will be pretty sure to chink in wax in any old place. We can hardly say the fence separator is more inviting for these comb attachments than the old-style separator, for comb attachments have been made on the latter just the same.—ED.]

THE LAST VIRGINS WILL SOMETIMES GO OUT WITH THE SWARM.

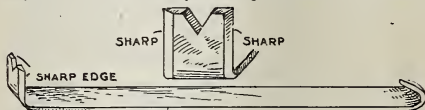
In regard to last virgin queens leaving hives with swarms, page 775, I will give some experience. Three years ago I killed the queens in about 75 colonies to prevent swarming. After the brood was sealed I cut out every queen-cell but one in each colony. From the time the queens hatched till

they began to lay, about a third swarmed and had to be rehived. In no case could I ever find any signs of a queen in the hive they left. To be quite sure, I did not return the swarm to several hives, and *invariably* they were found to be queenless. I have had experience other seasons to confirm the conclusion that last virgin queens will sometimes swarm. While the season was abnormal for swarms, there was nothing abnormal about the hives. There was an eight-frame brood-story with an excluder, and from one to three eight-frame L. extracting-supers above it, all mostly in the shade. C. G. LUFT.

Forest, Ohio.

HIVE TOOL MADE FROM A SKIMMER-HANDLE.

I send you a tool which is of great usefulness to me in the removal of propolis from edges of end-bars, tops of frames, and almost all places about a hive. It is just right to loosen the frames and draw them to you. I can very easily clean the frames



as they hang in the hive, or when I have them out. I can do the work quicker, better, and easier than with any thing else I have ever seen or heard of. I made this from the handle of an old skimmer; and the more I use it the more I am convinced that it is as near right in size, weight, and length, as I want. FRANK MCGLADE.

Pataskala, Ohio, Aug. 2.

PRIORITY RIGHTS TO LOCATION.

One of my neighbors wishes to make a start with bees, and I have agreed to give him bees and queens to start five hives. The fact that he is near my bees makes no difference with me. I disagree with Dr. Miller. I do not believe that I have more right to the flowers of the surrounding country than has my neighbor, even if I have got the first start. H. J. ISMON.

Trinidad, Cuba, June 19.

If a strong colony should be shaken on starters, and a super with full sheets of foundation in sections be given, would the queen lay in the sections?

Rushville, Ind.

H. B. WILSON.

[Not unless the foundation in sections had been drawn out, and probably not then. It takes a good deal of forcing to get a queen under any circumstances to lay in sections.—ED.]

Try outdoor feeding in as large a receptacle as a hive, using a float and one or several entrances connected to a bee entrance, and several with the entrance the same as to a hive. I have used this more or less for several years. G. F. AYRES.

Atherton, Ind.

UNITING IN THE FALL OR SPRING.

I have at present 9 colonies bees in Danzenbaker hives, and do not wish that the number kept should at any time exceed 10; consequently I shall have to double up and reduce down to 5. Can you advise me when is best to do this, and if best to kill off poorest queen *in fall*, and put the colony over a bee-escape and a colony that has proved productive? It seems to me impossible that a Danzenbaker hive-body could hold the bees combined in two if united in the fall and both fairly strong.

On the other hand, would you advise wintering all separately, and uniting them in spring when brood-rearing begins? The bulk of clusters would then be materially reduced, and it should not be difficult to unite then as compared with fall, as I find it is no joke to open a colony in fall, hunt out a poor queen, etc., as the bees are mostly old, and equal to a good fight on slight provocation.

Another question, do you deem it necessary to hunt up the queen and kill her if united over a bee-escape? Would the colony below kill her off as she descended, in any event, or would there be a risk of losing the *better* queen in the lower hive?

I trust the issue is made plain. We must reduce down to five, and then have new swarms in hives emptied by doubling; but it is hard to conceive of a single brood-body containing two colonies at fall strength.

It has been a doubtful question whether to winter each on its own stores, or double in fall. One thing is certain—the honey kept in brood-frames deteriorates, or is often of poor quality, and this is rushed up into sections in supers when a strong swarm is hived on the same, say in May or early in June. This has been my experience this year, and has led me to ask if all had better be wintered on their own stores.

E. O. ORPET.

South Lancaster, Mass., Aug. 22.

[Ordinarily the best time to unite bees is after cool weather has come, when there is not very much if any flying. If the bees are to be put in the cellar, a good time to do the work is a day or so before putting them in. When uniting we always advise selecting out the poorer queen and killing, for, as a rule, there will be a choice between the queens. If there is no such choice, unite the two colonies and let the bees do the work of selecting. Ordinarily there will be no difficulty in uniting a colony in a Danzenbaker double brood-nest down to one section—particularly so after cool weather sets in.

If a bee-escape board is placed between two clusters of bees, each having a queen, each cluster would show a tendency to stay with its own queen, but the cluster in the upper section would constantly grow smaller, and in the end the queen would be left alone. Yes, one *could* unite with the use of the bee-escape if he thought that plan more convenient.

Referring to your last paragraph, where

two colonies are weak it is *always* advisable to unite rather than to attempt to winter them separately.—Ed.]

WHY DOES MY COMB HONEY SOUR PREMATURELY?

Can any one tell me a safe, sane, and sure way of keeping comb honey so that it will not sour? I have the same trouble every year. It does not seem to make any difference whether the honey is taken from the bees early or late, some of it is sure to sour. I took off a super having every cell capped completely over, June 15, four years ago. Within one week it was so sour I had to throw it away. Last year I took off a large box, perfectly sealed. It kept well until January, then became intolerably offensive. This year I removed from the hive, August 7, six frames of comb honey, every cell of which was sealed. These frames were allowed to remain in a clean super, in a room on the second floor of my residence. To-day I find three of them reeking with sour honey. The other three, and one other frame taken from another colony, and with more than half the cells unsealed, show no signs of souring.

I have always kept my comb honey in the second-floor rooms of our house. The temperature is agreeable and very uniform; nevertheless my honey sours. Can any one offer an explanation, and give me any advice? I would say, also, that I wrap my pound sections separately in clean paper. The frames I cover thoroughly, top and bottom, in the supers, with paper; but still many of them sour.

PERPLEXED.

Altoona, Pa.

[Honey from some sources has a tendency to sour soon after it is gathered. The honey you mention is probably of this character. There is nothing you can do except to quit producing honey in sections and run for extracted. It may then be heated to a temperature of 160, with probably beneficial results. The acid tendency would be checked, and the honey would probably be kept sweet, provided, of course, it were sealed after heating, either in tin or glass.—Ed.]

HIVING SWARMS WITH A LOOKING-GLASS.

When my bees start for parts unknown, if I am not at home some of my folks procure a looking-glass, about 12×12 inches, if bees are just coming out; but if they have a start, get a large glass, about 20×24 in., or both. If it is convenient to have a hive a short distance from the old stand you can lead the bees to it, and hive them without any trouble and without killing a single bee. We take the glass in both hands, and give it an irregular motion. This gives the reflection of the sun on the bees a constant movement. While doing this, gradually bring your reflection closer to the hive or place for them to settle. By this means you can bring them on bushes or weeds, and then

you have a very easy time hiving them. I have done this way ever since I found it out. But remember you must keep the reflection of sun from the glass in a slow but constant motion on the swarm, and gradually bring to the ground, hive, bushes, or any thing. The large glass will do when your swarm has the start of you. It will reach further, and, being a larger glass, it will bring the bees closer together. The only reason I see for this means of settling is that the bees think it a storm coming. Try it and be convinced.
Joplin, Mo. ED. H. SUPPE.

[I have always supposed that the use of a looking-glass for hiving swarms was almost as useless as tanging on tin pans; but as you describe the use of this familiar household article, there may be some "science" about it after all. I know this, that I can drive a swarm of bees with a spray of water as I would drive a flock of sheep with a good whip; and I can induce a swarm to alight on almost any selected spot. If this same thing can be done with a looking-glass, it will have the advantage over a spray-pump, as it would be instantly available and very easily applied. I have never doused the bees without being doused myself more or less. I must confess it is something of a surprise that a looking-glass has any effect at all. I should be glad to hear from any of our subscribers who may have tried it.—ED.]

FREEZING QUEENS TO MAKE DRONE-LAYERS OF THEM; WHEN DOCTORS DISAGREE, WHO SHALL DECIDE? ETC.

In the report of the Chicago Northwestern bee-keepers' convention in the *American Bee Journal* for July 13, I see your experiment of freezing queens. Wouldn't it have been better to try some old queen along with the young ones? I see in June 15th GLEANINGS G. M. Doolittle does not make it a practice to supersede his old queens, while E. W. Alexander, in July 1st GLEANINGS, thinks otherwise. When such men as Doolittle and Alexander do not agree, how will anybody who does not know very much about bees know what to do?

I should like to ask a few questions.

What time in the fall or winter do queens quit laying?

Do old queens quit laying any sooner than young ones?

If old queens quit laying sooner in the fall than young queens, would a colony with old queen and bees stand as good a chance for winter as a colony with a young queen and plenty of young bees?

At what age is a queen at her best in laying?

Nelson, Mo., Aug. 1. N. R. WHITE.

[In the experiment of freezing queens referred to, we tried both young and old, without being able to make drone-layers of either.

As between Mr. Doolittle and Mr. Alexander, if I were called on to decide I should say that the latter is probably more nearly

right for most conditions affecting a honey-producing yard. Why? Because the majority of the large honey-producers have either declared in favor of or are practicing requeening every two years, and some as often as every year. Mr. Doolittle is a honey-producer as well as a queen-breeder, while Mr. Alexander is almost exclusively a honey-producer. It can not be denied that there are some queens whose usefulness would extend beyond the two-year limit, especially if they should be reserved for breeders.

The time when queens quit laying varies according to the locality. In most places it will be some time in September. If there is a late fall flow, egg-laying will be stimulated, of course; but where there is no fall flow there will not be much brood-rearing after Sept. 1.

Yes, old queens will quit laying sooner than young ones; and a colony with a young queen will for that reason stand a better chance of wintering than will an old one. This is one reason why it pays to requeen at least once in two years, and in some localities every year, because there will be more brood with a young queen, as a rule, than with an old one. More brood means more bees. In proportion as one colony is stronger than another, in that proportion its chances of wintering well are better.—ED.]

CONTROLLING THE INCREASE BY THE USE OF A PORTER BEE-ESCAPE.

What objection, if any, to the following? Have you ever tried it?

I have some bees working in top sections, and I do not want them to swarm; but they do swarm. This old hive we will call No. 1. I hive the swarm in the usual way and place the new hive, No. 2, by the side of No. 1, both facing the same way. When all are settled I put on a Porter bee-escape at the entrance of hive No. 2; and as they pass out to secure their honey, and return, they find the door of their new home for ever closed, and will immediately return to the old entrance and re-enter their old home. In hive No. 2 you will find the queen and a few bees, but you have accomplished your object, and have all the bees in No. 1. But surely a method so simple as this has been used by you, and I simply ask for the objections.

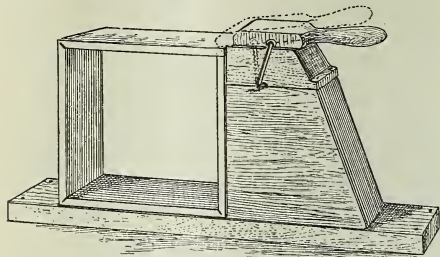
C. B. PALMER.

Bradshaw, Neb., Aug. 10.

[It is possible that the plan you describe has been mentioned in these columns, but I do not distinctly remember it; at all events, I do not see *why* it would not work under some conditions. Perhaps some of our subscribers who have tried the plan will be able to give us a report of it. If it has been described before, please point out the reference. In all the maze of methods that have been mentioned within the last twenty years it is difficult for your editor to discriminate in every case between the new and old; and he will, therefore, be free to call on his subscribers at times to help him out.—ED.]

A PARKER FOUNDATION-FASTENER USED AS SECTION-PRESS.

The sketch below shows how I arranged my Parker foundation-fastener to put sections together. It is raised up on blocks the height of a section. To use, fold the section; put it in front of the machine as



shown above; push the lever forward and raise it, pressing the section together, then use as we do to put in foundation, then put in the super.

J. E. HAPPING.

Stuttgart, Ark.

[This is a very ingenious adaptation of the Parker foundation fastener. It looks as if it might work.—ED.]

QUERY ON THOSE "UNDERSIZED YELLOW BEES" IN MEXICO.

Are they not what are usually called yellow-jackets? My experience with yellow-jackets in Ohio, here, and also in California and Mexico, leads me to believe that those "little yellow bees" are nothing more than the genuine yellow-jackets that build their nests as described by Mr. Jefferson; and as to their vicious habits, I can fully corroborate as one of a company who went with me to California in 1849 thought he would see if those "little yellow bees," as called by Mr. Jefferson, did not have some honey in their nice little home on a bush. The result was that he got stung so badly it sickened him for two weeks, and he was obliged to abandon his quest for honey; but they were the genuine vicious yellow-jacket.

On my return from California we landed at Mazatlan, Mex., on the Pacific, and came through that country to the Gulf of Mexico on account of cholera on the isthmus, and we found the same kind of yellow-jackets quite plentiful there. We could see their nests on bushes beside the road. If they make honey and comb whiter than common bees, why not introduce them into the bee family as distant relatives?

JESSE GREEN.

UNITING, AND PREVENTING SWARMING.

How would it do to unite two colonies of bees in the following way? Put one on top of the other, leaving a queen in each, and put a wire cloth between them, leaving an entrance to both top and bottom brood-chambers until next spring, say about March 15 to April 1 (according to the season), then

close the top entrance and take off the wire cloth and put on a queen-excluder, which will allow the bees that are in the upper chamber to pass down through the lower one and out at the bottom entrance? At the same time the excluder will prevent the queen from coming in contact with each other.

About April 1, which is about the time our bees begin to swarm, take all of the old comb out of the bottom chamber and give them full sheets of foundation (or starters), and *all* the bees from both chambers (and one queen), leaving them on the old stand, and in one to two days give them a super or two if necessary. Now take ten of the old combs (I use Danzenbaker hives) that have the most unhatched brood and eggs, and give them to the other queen, moving them to a new stand, and in seven to ten days shake all the young bees from the old combs off in front of the colony on the old stand. By this method, would I not have pecks of bees instead of gallons, to be storing the early and best honey in the super, and at the same time the queen on the old combs would be building up? And, furthermore, would not this manipulation prevent or at least retard swarming? Honey stored by the bees after July 15 is very bitter with us, being gathered from a yellow weed called "bitter weed;" and while it yields an abundance of honey it is worthless except that it is fine for the bees to winter on. So you see I have got to devise some plan by which I can get the early honey *or* give up bee culture.

Florence, Ala.

J. H. YOUNG.

[If I understand you, I think your plan would work. The hitch might come when you substitute the perforated zinc for the wire cloth. At all events, try it and report.—ED.]

BUCKWHEAT HONEY AND THE CIRCULARS FROM THE HONEY-PRODUCERS' LEAGUE.

I have distributed a great many of Dr. Miller's leaflets on honey, but do not quite like his description of buckwheat honey—too much of a one-sided view of the matter. Tastes differ, so do markets. But the circular of the new Honey-producers' League is much worse. Only a semicolon between buckwheat honey, "very dark," and the honeys that are ill flavored and not fit for market. Do you think every one will note the meaning of that pause? I do not. But, even as it stands, this description classes buckwheat as just fit for the market.

Now, I have been in the bee business only three years, but have already sold honey to go to Chicago, just because it was buckwheat; and just now I have an inquiry from a gentleman in Kansas City, Mo., who says, "I want the genuine buckwheat honey, in the comb, for my use, and also to show some friends, who never ate or saw any, what the honey of honeys is." Of course, I do not claim that this description should be used in the circulars; neither should they stand as they are. To describe any

honey as *very dark*, and let it go at that, is to give the impression that it is very inferior. The color of buckwheat honey is much like that of the choicest preparations of fruit. Its flavor, where known, is as popular as any, and it excels, perhaps, all other kinds in making white comb. I am well aware that no unfairness is intended; but there is a mistake which should be corrected. In the circular it could be done by leaving out four words. The description is unnecessary.

WM. A. STEWART.

Elkin, Pa.

[I have looked through both the honey-leaflet and the Honey-producers' League, but I do not get the impression in either that buckwheat is unfavorably or unfairly presented to the public.—ED.]



At the same time came the disciples unto Jesus, saying, Who is the greatest in the kingdom of heaven? And Jesus called a little child unto him, and set him in the midst of them, and said, Verily, I say unto you, Except ye be converted, and become as little children, ye shall not enter into the kingdom of heaven.—MATT. 18:1, 2, 3.

On p. 1035, Oct. 1, I told you that toward a dozen big broad-shouldered men had united with that little church. A weekly prayer-meeting was started promptly, meeting every Wednesday night; and those big men, as well as the women and children, are on hand promptly at every meeting in a way that we do not often see in the old established churches. It is now potato-digging time in the Grand Traverse region, and men, women, and children are working every hour when it is daylight, and it does not storm, to get in their crops. The prices offered are better than usual. When night comes, as a matter of course the people are all too tired to think of going to meeting—that is, if such excuses were to be tolerated at all. As there are a good many chores to do after it is too dark to handle the potatoes, the meeting time is fixed at 8 o'clock. Now, I was going to say these good *people*; but I think I will change it and say these dear *friends* of mine (and I thank God from the bottom of my heart that they *are* my friends) are not only on hand—men, women, children, and babies too, but they all take part—the babies sometimes without invitation, but it is all pleasant and harmonious for all that. “Harmonious” does not express it. They are a band of God’s people. I am dictating this Home paper while I sit here in Medina.

But just four evenings ago one of those big broad-shouldered men was appointed to lead the meeting. It was such a remarkable change for one who had always been diffident, and preferred to keep a little in

the background, that there was some smiling among the rest of the members to see that big stout fine-looking young man stand up before the audience. His very first words drew my attention toward him, and I guess the hearts of all the people, because they were so honest and straightforward. He acknowledged that he was embarrassed; but he said that in this new life of his the Lord Jesus Christ was to be the master and he was to be the servant, and therefore when he was called on to lead he did the best he could, and trusted to the Lord for the outcome. He read the fore part of the 18th chapter of Matthew, from which our text is taken. As I sat near him he asked me to make a little explanation of what I understood by becoming “as a little child.” Now, before I tell you my answer (and I do not know that I need to tell it at all), let me say I listened more intently to his reading and to his every word than I usually listen to any speaker, and I feel sure that it was much the same with the rest of the audience. We knew it was hard for him, and we were all praying that he might have strength and wisdom from on high. For the first time in my life, although I have read that chapter many times, I noticed that it was the *disciples* who asked the question who should be the greatest in the kingdom of heaven. They were ambitious, and perhaps selfish. Mark tells us that they came to him begging for the highest honors, asking him who should be on his right hand and on his left when he received his kingdom. Jesus, in his answer, said not one of them; nobody, in fact, shall enter the kingdom of heaven unless he first becomes as a little child. In my talk I asked if I was correct in inferring this was the first time Bro. Boone had led the meeting. He replied, “Bro. Root is right. This is the first time I have ever led any meeting of any kind. I never before stood up before any body of people to speak, and, to tell the truth, I never even read a composition nor spoke a piece in school, because I was too bashful. I am bashful still, and very much embarrassed; yet I am going to lead this meeting the best I know how, notwithstanding my embarrassment, and I want you to pray for me. If I understand the words of our Lord and Savior, he meant that big and strong men in business and everywhere else should be as innocent and honest and as unselfish as a little child who has not yet learned the *difference* between what belongs to the child himself and to other people. We should be as fair and square in our deal as if every transaction were between parties in which neither one had any interest whatever. We should try to *do right*, keeping in mind at all times that the loving eye of the great Father above is constantly over us and watching us. We should do our duty before God and before our fellow-man whether we feel like it or not, just as I am trying to do my duty here to-night in standing up before you.”

Of course, these were not his exact words; but I am sure when he comes to read this he

will excuse me if I have not given it from memory just as he said it.

Now, friends, while he was speaking I was wondering if it were beyond the possibilities of the future to expect that we might have such men as he is, or, perhaps I should say, such a man as he described, to hold the important offices in the affairs of our State and nation. I shall have something more to say on this subject; but before doing so I wish to mention that, when he suggested we should all kneel in prayer, almost every one in that little church knelt, and on bended knees took part in prayer. While we knelt in prayer many broke forth in a verse of some of the beautiful hymns we had been singing; and after we arose there were testimonies all around as to how each and every one was progressing in the Christian warfare. Many said they felt too tired to think of going to meeting when the time for meeting came; but they all united in declaring they felt rested, and were refreshed, and were glad that they came. In several prayers my name was mentioned, and they gave me more credit, I am sure, than I deserve. Oh, how I did thank God that it was my privilege to have a part in building up that little church off there among the hills that seemed to me then, and seems to me now, as I think of it as a glimpse of heaven here on earth! It made me think of the description of Pentecost in olden times.

After the meeting was over they asked me to write letters to them that might be read aloud to all the members of that little church, and they promised to give me regular reports of the progress.

As the snows are very deep there in the latter part of winter, a good many times, these big stalwart men promised to make paths for the women and children to go to church. The schoolhouse is opposite the church, so that these paths and roadways will be needed as much for the schoolchildren as for the church.

Now, friends, suppose that little church in its unselfish devotion and loving relations among its members were enlarged so as to include the whole United States.* What would be the effect in doing away with the shameful scenes of trickery and fraud being unearthed from day to day? I suppose we must have penitentiaries and jails and work-houses for a while at least; but, dear me! how much better it would be to convert these sinners to the Lord Jesus Christ before they get bad, and let the *love of Christ* be the constraining power instead of prison walls and manacles of steel!

* Friend Acklin, of St. Paul, Minn., sends us some newspaper clippings that tell of a wonderful revival now going on in that city and its neighbor, Minneapolis. Some 25,000 are in attendance, and thousands are converted. Even where the largest halls and auditoriums are chosen, there was only standing room for many of the people. At a recent conference of our churches a speaker, in alluding to the recent frauds that are being exposed and brought to light, said these emphasized the crying need of *real* Christianity more than any thing else that had ever happened since the world began.

I have been teaching a class in Sunday-school, as you may know, all my life—at least all my religious life. May God forgive me for those wasted years in the early part of my life. Well, I have plead and prayed for many a boy, and I have watched them in after-years and rejoiced to see them grow up in godliness and purity to serve their fellow-men. I do not know why it is, but almost always the superintendent for some reason has assigned me a class of boys in their teens. Sooner or later the boys drift into my care or else I drift around to preside over them, and in some way or other it seems as if the great Father so managed that the uneasy and sometimes unruly boys should be put in my charge. I have sometimes thought it something of a hardship; and then, again, when these same unruly boys became steady, sober, faithful church-members, I felt glad that it had been my privilege to work and pray for them. Well, years ago there was one particular boy in my class who seemed to take delight in propounding strange questions; I thought sometimes, too, he asked those questions just to bring out a discussion. That boy set me to thinking, and I do not know but he set me to praying more than any other boy in my class. He finally turned his attention to literary work, and quite early in life furnished some articles for the papers that attracted a great deal of attention. He startles people by doing unexpected things, and several times I have congratulated him and told him I felt proud to see one of my old pupils coming out so boldly and taking an advanced step in the great needed reforms of the day. One of my happy surprises in this line was when I got hold of a copy of the *Medina Gazette* (of which this boy is now editor) away up in my Michigan home, a few days ago. An editorial in this I am going to copy here. If any of you may suggest that this matter pertains particularly to the State of Ohio, I wish to reply that it hits all of us, for there is much the same state of affairs in every State in the Union. The matter touched on is of so much consequence that there is not the shadow of an excuse for claiming that it is out of place in a bee journal. *Every periodical in our land*, no matter what sort of industry or class it represents, should be ready to open its pages when the thieves and midnight assassins are at our very doors. Now read the following, and see if I am not right about it.

WHY WE BOLT HIM.

The name of Myron T. Herrick does not appear at the head of the Republican ticket placed in our columns to-day, and its omission is not unintentional. It means that the *Gazette* can not support Mr. Herrick for governor, however much it dislikes to be in opposition to any Republican candidate for office. And when a party paper that has unwaveringly supported all the candidates of one party for 50 continuous years believes the occasion has arisen to refuse its support to one of its party's candidates for a great office, that paper should have good reason for its action, and declare such reason fully, honestly, and fearlessly—and this we purpose here to do.

Mr. Herrick's second nomination was at the dictation of a disreputable boss in Cincinnati, in defiance of such a popular protest as was never before

made in Ohio. Mr. Herrick was not wanted as a candidate for a second term, by even a small fraction of the Republicans of Ohio. Six months ago the Republican press of Ohio (such part of it as is free to express its opinion) was almost unanimous in its censure of Mr. Herrick, and demanded his retirement. Excepting a small ring of politicians, the Republican masses called for some other candidate. Mr. Herrick insisted on his own renomination. Politicians with whom he had joined hands in times past found it necessary to support him or disrupt that beautiful "organization." There was then a rush to the throne of Boss Cox. For several days the beery political demigod hesitated. U. S. Senators, U. S. Congressmen, State officers and Republican "leaders," waited breathless for one deciding word from the saloon boss of Cincinnati. He said "Herrick." The "organization" machine then began grinding "Herrick," and he was nominated in a convention in which the chosen delegates of 500,000 Republicans of Ohio had as little to say about the ticket or the platform as would a huddle of homeless dogs on Medina's public park. It was a dummy convention, forestalled and muzzled. From the moment the saloon boss of Cincinnati spoke, the wishes of 500,000 Republicans of Ohio were over-ridden and disregarded. It was as pitiable a spectacle as a great party of a great State ever presented, or, rather, as pitiable a spectacle as one boss and a few politicians who wished his support have ever made of the great party which they assume to own.

Every thinking Republican in Ohio knows this to be true. Every thinking Republican in Ohio knows that our State conventions are coming to be nothing more than ratifications of a "slate" made up by Cox and a few others upon whom he smiles. Hanna is gone, and Cox's path is clear—unless the Republican masses of Ohio wake to the situation and drive the graft-polluted boss from his place of dictatorship. The time is now. Herrick is hardly more than a shadow in the contest that is on. Behind him stalks the polluted hulk of Cox, swollen by the fruits of graft, dangerous because of conscienceless political shrewdness and organization, that make every day a work day in the field of unclean politics. Unchecked now, the Cincinnati boss will stride on to the political stage of Ohio, complete dictator, to subject it to such disgrace as machine-ridden Cincinnati such political corruption as has disgraced Philadelphia in the sight of the whole nation, and made it a political source of contamination of that whole State.

Will the Republicans of Ohio vote to endorse the dictatorship of Cox—for back of Herrick and all around him is Cox? Will they vote to O. K. his dictation to the last Republican State convention and roll up a majority to approve that he name every Republican State ticket, and import into the State capital his rule of bossism and graft?

Or will they serve notice on the Republican "organization" of Ohio that Cox must go to the rear; that a man selected at his dictation over the wishes of a great majority of the Republicans of Ohio will not receive the support of the best element of the Republican party of Ohio? Will they not vote to make it clear to party leaders, that the Republicans of Ohio want no more "dumb" conventions? That they want leaders not bosses? that they want fair "organization"? that they want the majority of the 500,000 Republicans of Ohio to rule the party's affairs, and not the word of a junto of machine bosses? that they want a new deal and a square one?

On this issue alone the *Gazette* can not be for Mr. Herrick, and it will not stultify itself by believing one thing and advocating something else.

But there is another issue for which Mr. Herrick is personally responsible. It was his act as governor of Ohio that has aligned him with the saloon and rum element of the whole State.

There is no denying the fact as to where the saloon is in this campaign. His picture has adorned the whisky trade papers of Ohio. His praise is found in their every issue. His supporters are openly saying: "We will get a saloon vote for every temperance and church vote we lose." For the first time in Ohio Republican history the leaders of a Republican campaign are seeking recruits in the saloon, attacking a great temperance organization, and sneering at the expressed sentiments of numberless Christian organizations.

And why? Because (befog the fact, as Mr. Her-

rick's supporters will) the fact is that Mr. Herrick broke into the Ohio legislature, and, holding his threat of veto over the representatives of the people of Ohio, compelled a modification of a temperance law in favor of the saloon men and brewers of the State. That is the fact. There is no getting away from it. The temperance people of Ohio certainly were not the ones that asked him to do it. They remonstrated from every corner of the State. But the liquor men of the State declared that he had agreed before his election to oppose temperance legislation. And doesn't it look as if he had? His excuse was that it was "unfair" legislation. To whom was it unfair? Was it unfair to the mothers and wives and children who suffer in the cities from the curse and poverty of drink? Was it "unfair" to these helpless ones to have a law passed that would have driven many more saloons from near their wretched homes than can now be voted out?

There is nothing "unfair" in the law that drives the curse and desolation of the saloon away from the vicinity of the homes of the city poor or the city rich. The saloon is an assassin, a butcherer of helpless women and children, a destroyer of men, and deserves no quarter. Yet Mr. Herrick is its defender. He guards it from "unfairness"—to the extent of overruling a whole legislature and in the face of the protest of the combined Christian citizenship of Ohio. He has bid for the saloon's support and got it. And why does he or his supporters ask or expect the temperance people of Ohio to join his saloon crowd?

On this issue the temperance people of this State and the lovers of the home can not stand with Mr. Herrick. He made his choice, and here the *Gazette*, with thousands of others, parts from his company. We won't join the saloon in his support, and we will line up with the forces that stand for temperance and the home.

It is said in this campaign that the result in Ohio this year means the support or disapproval of President Roosevelt's administration. This is worse than untrue—it's an insult to the intelligence of every Republican voter. This campaign in Ohio is on Ohio issues, and every intelligent voter knows it. Ohio is overwhelmingly Republican when Roosevelt is the issue, for nearly half the Democrats are with us on that. Think of declaring that this election means the support or condemning of Roosevelt when less than twelve months ago he received 255,000 plurality in the State, and since which time not a voice is raised except in his praise, and the press of both parties unanimously uphold his hands in their splendid work of unpartisan patriotism! Is his great administration hanging in the balance that will turn on the election news telling the result of the efforts of the Cox-Herrick combination to control this State?

The suggestion is insulting to President Roosevelt as well as to the people of Ohio!

If President Roosevelt were a Republican in Ohio to-day he would fight Coxism and Cox to his last breath, and he would be hated and feared by the Cox-Herrick machine just as he was hated and feared by the Boss Platt machine in New York State that tried to shelve him by making him vice-president.

There are other issues on which Myron T. Herrick is gravely arraigned before the voters of Ohio. His weakness as a man, accusations of broken word and pledges, his disregard of the old soldier, the disaster which threatens his party because of his un wisdom, are charges not disproved.

But Coxism, foul and dirty, and the saloon, both of which Mr. Herrick has made (wittingly or unwittingly) his allies in this battle, are repelling thousands of voters from him. We are among them. We can't line up with the other crowd for him. We can't do as the private voter can do, "Keep still and vote as we please," unless we dodge the issue—and we don't wish to dodge this issue. We yield to no man in our loyalty to true Republican principles. During the 13 years that it has been our high privilege to exercise the right of American suffrage we have never scratched a Republican ticket from top to bottom, and have voted nothing else. We heartily support the rest of the Republican ticket in this campaign because we believe it is made up of honest men who will make good public officers.

We do not have any quarrel with Republicans

who may *honestly* differ with us in this matter. There are such. We do not expect men who are awaiting public office, or who wish to stand in with the "organization," or who would "vote for the devil" if placed on their party ballot, to approve this article. We have had their opinion very much in advance. We know the plausible talk of the campaigners. We have tried to weigh it all fairly.

But as a Republican seeking what we believe to be best for this State and best for our party, believing that leaders who lead the party wrong should be deposed from command, we can not support for governor a man who has embraced both Coxism and the cause of the saloon, and we will continue to oppose those two things so long as we can raise a voice against them.

Since the above was put in type we have the following from the Hon. A. R. Webber, of Elyria, Ohio, Member of Congress from Gov. Herrick's district. We copy it from the *Medina Gazette* of Oct. 27:

I will not campaign shoulder to shoulder with brewers, distillers, and the Liquor League of Ohio. Since I promised to address you in a meeting I have read the doings of the allied liquor interests of the State, in which their united support is to be given for Governor Herrick and against the temperance forces of Ohio, and especially the Anti-Saloon League.

I have fought the rum power for twenty years, and helped organize the Anti-Saloon League. I believe the Anti-Saloon League has been and will continue to be the greatest organization in America to hurl against the liquor traffic everywhere. To show the liquor interests' opinion of the Anti-Saloon League I quote the following letter that has been sent out by a distilling company:

THE FLEISCHMANN COMPANY

Distillers, Re-distillers, Blenders

WESTERN DIVISION

DISTILLERIES

RIVERSIDE, O.

PEERSKILL, N. Y.

Branch Distributing Points:

Cincinnati, New York

Baltimore, Pittsburg

Buffalo, San Francisco

CINCINNATI, OHIO.

Sept. 27, 1905.

Dear Sir:—Have you considered the importance of the approaching gubernatorial election in Ohio and how very seriously the result of this election will affect the liquor interests of this State?

It will vitally affect every business concern and every individual dependent for support, directly or indirectly, upon the liquor interests.

A plain business proposition confronts us.

On the one hand is a candidate who was nominated by the "Anti Saloon League."

On the other hand is a candidate whom that organization is fighting with every effective force at its command.

The election of the "Anti Saloon" candidate, John M. Pattison, will mean the entire subservience to each and every restrictive and prohibitive policy for which the "Anti Saloon" League openly and avowedly stands; it will mean the complete domination of the Legislature and a death blow to the liquor business and its allied interests in the State of Ohio.

Hence, it behooves the distiller, the wholesaler, and the retailer to at once arise to the needs of the situation by instituting a personal and vigorous campaign for the protection of their business.

Every man interested, directly or indirectly, in their business welfare should be talked with personally or written to, urging him to vote for Myron T. Herrick and against the "Anti Saloon" candidate, John M. Pattison.

Your malster, cooper, bar fixture manufacturer, dealers in supplies of all sorts, grocer, butcher, friends—all of these should be made to understand the serious importance to your interests which is involved in this election; urge each and every one of them not only to vote for Herrick, but to join you in urging others to do likewise.

We trust that you will see the importance of working hard and incessantly from now on until the close of the polls on election day.

You must use every influence at your command to assure the salvation of your business interests.

Yours very truly,

THE FLEISCHMANN COMPANY.

The men who have had the most to do in building up this new national organization are Russell, Baker, Wheeler, Dinwiddie, and Jackson. Nearly every State

in the Union has been organized by the League. The League has national headquarters in Washington, looked after by Dinwiddie, through whose leadership Congress refused to admit the Indian Territory and Oklahoma unless they would agree that no traffic in intoxicating liquor as a beverage should ever be granted in the new States.

Tens of thousands of people in Ohio have contributed and will continue to contribute tens of thousands of dollars toward the work of the Anti-Saloon League. Back of it are all the churches, Sunday-schools, Epworth Leagues, Christian Endeavor, Y. M. C. A.'s, and all temperance organizations. It was organized to fight the liquor traffic, not candidates—unless they get in the way of its progress. It stands for the good of every child in Ohio; for every home; for every man who has fallen out by the way. It has made the name of Boss Cox a hissing and a by-word everywhere except with the allied liquor interests. It will never die till the work for which it was organized has been accomplished.

I am exceedingly sorry that the Governor is having a quarrel with it or any of its leaders. This is unfortunate, for I have known the Governor many years, and believe him to be a clean man of kind impulses.

I wish the Governor would go to quarreling with the Liquor League of Ohio and Boss Cox. His failure so to do has disappointed his thousands of Republican friends.

Come out, Governor, and repudiate the whole combination, and tens of thousands of Republicans now declaring against you will turn with zeal in your interest. You owe this to those of us who know you well.

It is not the Brannock law the people so much care about at this time, but it is to know that you are not allied with the element that destroys, and the boss whose cunning has made the good citizens of Cincinnati ashamed of their fair city; and the only way to convince the people, under the circumstances, is to cry out against them publicly and to spare not.

As a member of Congress, if I live to reach Washington in December I shall introduce a bill to abolish the liquor business forever from the District of Columbia; and in support of this I expect the support of the Anti-Saloon League, and all people in America who believe that the open saloon is the enemy of mankind.

Elyria, O., Oct. 26.

A. R. WEBBER.



DR. SALISBURY; GIVING CHILDREN MEDICINE, ETC.

On page 1009, Oct. 1, Ernest tells how he was cured of deafness, etc. I wish to add something to it. Mrs. Root and I took our twelve-year-old boy to Cleveland for the purpose of consulting some eye and ear doctor; but as Dr. S. had been treating me I went first to him, thinking he might be able to refer us to some safe specialist. After what Ernest has told you, the doctor said something like this:

"The trouble with the boy's hearing is because he is not in good general health for a growing boy."

He took hold of the boy's slender arm, then grabbed him by the calf of the leg, remarking, "See here! this boy wants to be kept outdoors more, and given some active exercise. Get him a hatchet, a sled, and a wheelbarrow. Give him some rubber boots and suitable clothing so he can be out in all kinds of weather. Perhaps he'd better drop school for a year. He will more than catch up when we get some good muscle on him. When the calves of his legs fill out with good strong firm muscles his hearing will be all right. His outdoor work will give him an

appetite for the lean meat, and have him eat as much of it as you can."

I asked if he would need physic, as I did, to prevent constipation.

"No, I think not. I don't like to give medicine of any kind to children, and it is seldom necessary. Nature will take care of them if their food and habits are right. We advise some medicine for grown-up people when they have for some years gone wrong and they can stand it better; but it is a bad plan for anybody."

I think Ernest was kept out of school one winter. His wheelbarrow was soon known all over town; for with his waterproof suit it was out in all kinds of weather—either that or the sled. His appetite increased, as a matter of course, and his muscles developed, and finally his hearing was all right. God intended children to be out of doors every day in the year. And the parent who, with mistaken kindness, "coops them up," must pay the penalty in some way or other.

While paying tribute to Dr. Salisbury I wish to mention another reform he started.

BREAD WELL BAKED AND FOOD WELL COOKED.

When the doctor allowed me a little bread after I had been some time on clear-meat diet, it was only the German zwieback (or "twice-baked") bread; and later, when I began to eat common bread, he said I should be careful to have it well baked. Soft doughy bread masses on the stomach, and the gastric juice can not get all through it. As a consequence, digestion is delayed, and the old fermentation gets started. Mrs. Root and I are constantly annoyed in traveling because we can not find bread baked enough to be wholesome. When we go to the bakers they tell us their average customers will not buy it if it is baked hard. Why do invalids and others whose digestion is bad always have "toast"? Why, it's just because a l the world admits that well-baked or twice-baked bread is more digestible. Dr. S. always told his patients to have all grains thoroughly cooked. Indian meal is a very wholesome food if cooked slowly *several hours*, and the same with oatmeal and lots of other things. *Poor cooking and insufficient cooking* has much to do with getting along without medicines and doctors.*

SUN BATHS.

After writing up "A. I. Root's Bathroom" in last issue I came across the following in *Good Health* for October:†

* Let us not forget how much the *Good Health* people of Battle Creek, Mich., have done in furnishing the world with wholesome foods *well cooked*. And, by the way, Mrs. Root and I, after testing a great number of coffee substitutes (including the "Postum"), have settled down on the "caramel cereal," made by the Battle Creek people, as *first and best*.

† Perhaps I might add that, with the arrangement described in the last issue, I took several very nice sun baths and water baths out in the open air during the last week in September; and during the whole of that month I enjoyed better health and more exuberant spirits than I ever did at any other time of my life, not even excepting my boyhood.

SUN BATHING FOR LONGEVITY.

Mr. Andrew Joseph Thompson, of Santa Rosa, Cal., who has reached the unusual age of 113 years, recently made a trip to Minnesota to attend the marriage of his great-granddaughter. Mr. Thompson is active and bright-eyed. He says that he hopes to complete another century of life. He gives the following as the reasons that have enabled him to reach this great age in comfort:

"In the first place I refuse to be worried about any thing. Since I ceased actual business, about sixty years ago, I have never let a day pass, when the sun shone, without baring my body to its rays for one or two hours. On my place in California I have an enclosed space where I go as naked as God made me. There is a little lake, and some woodland, and a rose-garden; and during the time of my sun bath I ramble about through the paths. The sun sinks into my old bones, and gives them new life. My skin is as brown as an Indian's all over. It has been that way ever since I began the practice of sun bathing. For cold weather I have a glass house at the top of my residence, comfortably fixed up, and there I take my bath through the windows when compelled to do so."

One might almost think I got some of my ideas from the above. Now, can we not have some *more* "gardens" for sun bathing? Why, bless your hearts, friends, it was in *just such* a garden that God placed Adam and Eve before the Fall, and *they two* had "sun baths" every day and all the time. Was it E. P. Roe who gave us the book "Getting Back to Eden"? Well now, don't you believe it will be a grand thing for a great lot of us to "get back to Eden"? and may be some of us older ones had better get into a "hustle" about it ere it is too late.

Convention Notices.

PROGRAM FOR THE NATIONAL CONVENTION.

The National Bee-keepers' Association will hold its annual convention at the Revere House, corner of Clark and Michigan Sts., Chicago, during the fat-stock show, when exceedingly low rates may be secured on the railroads. The dates for the meeting are Dec. 5, 6, and 7. Rates at the hotel are 75 cts. for a room alone, or 50 cts. each where two occupy the same room. Meals are extra, or they may be secured at nearby restaurants. The program is as follows:

FIRST DAY.

Evening session, 7:30.—"Wax-rendering Methods and Their Faults," O. L. Hershiser, Buffalo, N. Y.; "Can the Tariff on Comb Honey be Tinkered to the Advantage of the U. S. Bee-keeper?" by Hildreth & Segelken, New York.

SECOND DAY.

Morning session, 9:30.—"How many Bees shall a Man Keep?" by E. D. Townsend, Remus, Mich.; "Short Cuts in Bee-keeping," by M. A. Gill, Longmont, Colo.; "Producing Comb Honey and Extracted Honey on the same Colony," by Jas. A. Green, Grand Junction, Colo.; question-box.

Afternoon session, 2:00.—"The Control of Increase," by L. Stachelhausen, Converse, Texas; "Migratory Bee-keeping," by R. F. Holtermann, Brantford, Can.; question-box.

Evening session, 7:30.—"Contagious Diseases among Bees, and how to Distinguish Them," by Dr. Wm. R. Howard, Ft. Worth, Texas; "Experimental Apiculture," by Dr. E. F. Phillips, Washington, D. C.

THIRD DAY.

Morning session, 9:30.—"The Honey-producers' League—Can it Help Bee-keepers?" by R. L. Taylor, Leapeer, Mich.; "The Business End of Bee-keeping," by N. E. France, Plattville, Wis.; "Successful Experience in the Making of Honey Vinegar," by H. M. Arnd, Chicago, Ill.; question-box.

Afternoon session, 2:00.—"In what Way can Bee-keepers Secure Their Supplies at Lower Prices?" by W. H. Putnam, River Falls, Wis.; "How the Producer and Dealer may Advance their Mutual Interests," by Fred W. Muth, Cincinnati, Ohio; question-box.

Evening session, 7:30.—"What have We to Hope for from the Non-swarming Hive?" by L. A. Aspinwall, Jackson, Mich.; "Poultry-keeping for the Bee-keeper," by E. T. Abbott, St. Joseph, Mo.

W. Z. HUTCHINSON, Sec.

Wants and Exchange.

Notices will be inserted under this head at 15 cts. per line. Advertisements intended for this department should not exceed five lines, and you must say what you want your advertisement in this department or we will not be responsible for errors. You can have the notice as many lines as you like, but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale, will be charged our regular rates of 20 cts. per line, and they will be put in other departments. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED.—To exchange bee-supplies (Root's) for beeswax. A. H. REEVES, Perch River, N. Y.

WANTED.—To exchange modern firearms for incubators and a Barnes cross-cut saw. W. S. AMMON, 216-218 Court St., Reading, Pa.

WANTED.—To buy colonies of bees. State price and condition. F. H. FARMER, 182 Friend St., Boston, Mass.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price. OREL L. HERSHISER, 301 Huntington Ave., Buffalo, N. Y.

WANTED.—Refuse wax in exchange for cash, or stock in standard-bred White Wyandottes. H. E. CROWTHER, No. Kingsville, Ohio.

WANTED.—To exchange Aikin honey-bags, a 200-egg Reliable incubator, and brooder, for honey. CHAS. KOEPPEN, Fredericksburg, Va.

WANTED.—At once, 30 Danzenbaker brood-frames filled with sealed honey; free from disease. State price. JAMES SOWARDS, Pikeville, Ky.

WANTED.—To exchange an Odell-Young typewriter, double-case machine, full nickel-plate, for Root-German, or Ferris wax-extractor, or anything useful to a bee-keeper. FRANK LACEY, 81 North St., Danbury, Conn.

WANTED.—A few copies of GLEANINGS for Dec. 15, 1885. Parties sending good clean copies of this issue may have their subscription advanced two months, or we will send ten cents in stamps. Not more than 25 copies can be used.

THE A. I. RCOT CO., Medina, O.

Help Wanted.

WANTED.—Half a dozen bee-men for Cuba; men of ability and practice, men that *know* the honey business from A to Z. No others need apply.

W. W. SOMERFORD, Caimito, Cuba.

Situations Wanted.

WANTED.—Position. Any one desiring to employ a practical bee-keeper, address undersigned, who has been instructor in bee culture for two years under the Swedish Agricultural Society. For further particulars address C. J. ARISO, Canton, So. Dakota.

WANTED.—Situation with some bee-keeper who makes his own hives. No bad habits. I have a set of tools. ROBT. MCQUIN, Norway, Iowa.

Addresses Wanted.

WANTED.—Parties interested in Cuba to learn the truth about it by subscribing for the Havana Post, the only English paper on the Island. Published at Havara. \$1.00 per month; \$10.00 per year. Daily except Monday.

For Sale.

FOR SALE.—Fifty colonies of bees for \$75.00. Address F. B. BLACK, Pleasant Mound, Bond Co., Ills.

FOR SALE.—Full colonies of leather-colored Italian bees at \$4.00 per colony. F. A. GRAY, Redwood Falls, Minn.

FOR SALE.—Several hundred acres of magnificent land at \$5.00 and \$10.00 an acre, in one of the finest wood and grass districts of Cuba. R. M. MCMURDO, Cauto, Cuba.

FOR SALE.—White Wyandotte cockerels and pullets, selected stock, farm raised, at \$1.00 each. JOHN BUFINK, Rome City, Ind.

FOR SALE.—Bees in Root's eight-frame hives with one super complete; hives well painted; bees in good condition; 44 stands for \$5.00 a stand. CLIFFORD EWERS, Carlsbad, New Mexico.

FOR SALE.—White Leghorn and White Rock cockerels; choice birds at \$1.00 each. HAL OPPERMAN, R. F. D. 7, Pontiac, Ill.

FOR SALE.—A large watch dog and man-trailer; bred from full-blooded mastiff and bloodhound sire; two years old. C. MCQUEEN, Baltic, Ohio.

FOR SALE.—Cheap, 32 colonies of Italian bees in eight and ten frame two and three story hives. Reason for selling, have no time to take proper care of them. N. O. PENNY, Vero, Indian River, Florida.

FOR SALE.—My entire apiary of 100 colonies. I have kept bees 68 years, and the infirmities of old age compel me to quit the business. D. L. BULFER, Wauseon, Ohio.

FOR SALE.—Fourteen colonies of Italian bees in Langstroth and Simplicity hives. JOHN HERBERT, Hampshire, Ill.

FOR SALE.—My apiaries of 300 colonies near Macon, Ga., the third healthiest city in the U. S., a ready market for output at a fancy price. Prefer selling a half-interest to a good practical bee-man to take charge. If you mean business, address for particulars JUDSON HEARD, Atlanta, Ga.

FOR SALE.—We offer, for the first time, queens which produce beautiful bees. You never will be sorry if you try one of our beauties. Untested, 75c; tested, \$1.00. Choice strain of leather-colored queens at same price. F. H. FARMER, 182 Friend St., Boston, Mass.

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